

A STUDY TO EVALUATE THE EFFECTIVENESS OF
INFORMATION EDUCATION AND COMMUNICATION (IEC) ON
KNOWLEDGE REGARDING PREVENTION OF OBESITY
AMONG STUDENTS IN SELECTED HIGH SCHOOL
AT KANYAKUMARI.



A DISSERTATION SUBMITTED TO THE TAMILNADU DR.
M.G.R. MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL
FULFILMENT OF REQUIREMENT FOR THE DEGREE OF
MASTER OF SCIENCE IN NURSING

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BY

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DEDICATION

**“Keep your dreams alive, understand to achieve anything requires faith and belief
in yourself, vision, hard work, determination and dedication. Remember
all things are possible for those who believe”**

I dedicate this book to
God almighty who blessed me to finish this work
Successfully

I dedicate this book to my lovable
Husband Mr.M.L.VAJEETH
KUMAR

who made my life more special and without him it wouldn't have been possible to
complete my study.

I dedicate this book to my beloved ever
lovingchildren
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could have been gone ahead.

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ABSTRACT

Obesity is an increasingly significant problem that is likely to endure and to have long term adverse influences on the health of individuals and populations unless action is taken to reverse the trend. A number of factors have been suggested as contributing to the development of obesity. Obesity is the second leading causes of death.

The teaching given should create aware ness about exercise and nutrition.

Statement of the Problem

- A study to evaluate the effectiveness of Information Education and Communication (IEC) on knowledge regarding prevention of obesity among students in selected high school at Kanyakumari.

Objectives

- To assess the level of knowledge regarding prevention of obesity among students in selected high school.
- To evaluate the effectiveness of Information Education Communication (IEC) on knowledge regarding prevention of obesity among students in selected high school.
- To determine the association between the level of knowledge regarding prevention of obesity among students in selected high school with their selected demographic variables.

Hypotheses

- H1 : There will be a significant difference between the mean pre-test and post-test score of knowledge regarding prevention of obesity among students in selected high school.
- H2 : There will be a significant association between the post-test level of knowledge regarding prevention of obesity among students in selected high school with their selected demographic variables.

A pre-experimental one group pre-test post-test design was adopted and Non-probability convenient sampling technique was chosen for this study. The total number of samples for the present study was 60 students(11-16years). The study was conducted in a selected school at Kanyakumari.

Data were collected by means of structured self administered knowledge questionnaire. The subjects received Information Education Communication (IEC) regarding prevention of obesity.

The collected data were analyzed by using both descriptive statistics and inferential statistics. Independent “t” test was used to evaluate the effectiveness of Information Education Communication (IEC) on knowledge regarding prevention of obesity. The obtained „t” value for knowledge 18.9 was significant at $p < 0.05$ level.

Conclusion

The findings of the study revealed that Information Education Communication (IEC) was effective in improving knowledge regarding prevention of obesity among students in selected high school.

Key words: Effectiveness, Information Education Communication (IEC), prevention, knowledge, obesity, students.

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CHAPTER I

INTRODUCTION

“Where you find Obesity, You will find Poverty” - Billferris

Obesity is an increasingly significant problem that is likely to endure and to have long term adverse influences on the health of individuals and populations unless action is taken to reverse the trend.

Obesity has gained a lot of attention in the recent years especially the 21st century obesity in children is a serious medical condition that affects children and adolescents. Obesity is described as having a body mass index (BMI) of greater than thirty. Obesity among children is steadily increasing and becoming one of our greatest health problems.

Obesity is defined as the condition of abnormal excessive fat accumulation in adipose tissue to that extent the health may be impaired (WHO). Life style is considered to be an important determinant of health and sickness. Some of the health problems are rooted in childhood habits, among them obesity is a major problem. Today it is estimated that over 250 million people in the low and middle income countries suffer from obesity. Globally more than one billion adults are overweight and of these 300 million are obese.

The number of obese children is also increases because of the parents not making children get the amount of physical activity they should be getting.

Children need nutritious foods to grow and function. But most of the school children's depend on junk foods for nourishment and have inadequate intake of fruits, vegetables and whole grains. According to Swaminathan a person whose body weight is higher than normal by 15-20% is considered as obese when the total body weight is more than 25% fat in boys and 32% in girls.

Historically, a fat child means a healthy child, one who is likely of survive the rigors of under nourishment and infection. But unlike the past, today obesity in school children is considered a major health risk due to malnutrition and improper lifestyle modifications of bullying and teasing.

Obesity now considered as a "killer lifestyle disease" an important cause of preventable death worldwide. According to the world health organization 1.2 billion people worldwide are officially classified as overweight.

Obesity has so many affects on children and it can mess their lives up dramatically. Obesity can lead to poor self esteem and depression. Obese children are typically picked on during school so they don't have any friends and they tend to stay to their selves. Some parents tease their child about being obese and that definitely would lower any child's self esteem. Obese children don't think highly of themselves because they are not good enough as others, often because of bullying and teasing.

High risk of diabetes in pregnant women causes higher birth weights in babies that could lead to the development of obesity in childhood and in adolescence.

During the past two decades the prevalence of obesity has risen greatly worldwide and the excessive fatness has arguably become a major health issue in both development and developing countries. The transition in nutrition and lifestyle by the popularity of fast foods, soft drinks, sedentary life style, lack of exercise, increased television watching, mobile phone and computer use are the common trends adopted by children's today.

Junk foods look so attractive and yummy for the people of every age group. Snacky foods are easily available and attractive pizzas, French fries, burgers and oily foods, the ingredients added increase the taste buds to have more causing naturally obesity. Nowadays fast lifestyle adopted by children has unhealthy foods. Children are attracted by commercial advertisements and their super heroes.

NEED FOR THE STUDY

Today's children are tomorrow's future of the world. Obesity causes numerous health issues and illness which affects the generation.

According to the national collaborative on childhood obesity research, 1 out of 3 children are obese before their 5th birthday. And approximately 12.5 million or 17% of children and adolescents aged 2 to 19 years are obese. These rates are even higher than economically disadvantaged children. Genes, epigenetic, the intra uterine environment as well as early life influences play a role in where or not a child is

obese. Obesity management is critical so prevention and awareness bring more effective outcomes. The preventive interventions will lead to produce changes at multiple levels, including individuals, families, schools, specially children.

Schools play an important role in preventing obesity. Through education we can shape the children dietary practices, physical activity, sedentary behaviours and ultimately their weight status. The knowledge regarding over nutrition, their influence on food selection, meal structure, and home eating patterns, their modeling of healthful eating practices, physical activities, sedentary habits including television viewing can be improvised through IEC.

Studies have shown that a high proportion of students are unaware of or unconcerned about their overweight status. In a study 30% of school children are overweight (6-11 years). The prevalence of obesity is doubled (12-19) years quadrupled among younger children (6-11 years) worldwide one out of 5 children in India's overweight or obese, a total 9 million children.

As a consequence of the rising incidence of obesity, parents' unawareness and over feeding is also a cause for this condition. Parents' role at home in promoting healthful eating practices and levels of physical activity are so critical in preventing obesity. They should also take central to collective efforts to combat the nation's childhood obesity. Obesity may also increase the risk of serious complications from H1N1 influences. A study in California showed about 25% of the people hospitalized for H1N1 complication.

A recent global survey by right speed research revealed that nearly 3 out of 4 respondents blamed children spend much of their time in two places, home and school which make their two most influential groups of people, parents and teachers.

A convergence of facts about food habit is what food is dined in family, how often the family dine outside of the home and where that meal taken. The research conducted by poll in Great Britain, France, Germany in June 2006 found that these modern lifestyle lead to obesity.

The researcher noticed from next experience that children with more passive behaviours such as TV viewing. Addiction to computer games and talking on the phone unnecessarily are more prone for obesity. Eating habits such as consuming more fatty and sugary foods are also factors causing obesity among children. Lifestyle changes again reflect parent's anxieties regarding their children future which results in children being to and fro to school in cars and being discouraged from active outdoor play after coming from the school because of the fears and insecurity. They are again encouraged by parents to sit and study for some more coaching classes after school hours. All these factors contribute again to reduce physical activity levels while dietary intake is not restricted in growing child. So researcher planned to give preventive measure Information, Education, Communication on preventive of obesity.

There is an urgent need to address problem and the time to act is now. Several studies suggest that prevalence of obesity is increased among children and awareness created through teaching program gave 80% good response. Motivating change beings with understanding the causes and consequences of obesity. So the researcher

preferred Information, Education, Communication as a channel to implant knowledge about obesity in children to get good habit.

The foundation of lifelong good health is laid in childhood. Addressing childhood obesity is very important in order to improve the health of the child. Information, Education, Communication plays an important role to improve the knowledge on prevention of obesity. Educating students regarding the prevention of obesity help students to choose and maintain in healthy lifestyle. The information provided to the students also help the students to eat better be more active and achieve healthier weight.

Prevention of obesity is the key strategy for controlling the current epidemic of obesity. So the school age children are considered to be the priority population for implanting knowledge regarding prevention of obesity. Since there is an urgent need to initiate prevention. The researcher felt that Information, Education, Communication as a key role to improve the health of the children.

STATEMENT OF THE PROBLEM

“A Study to Evaluate the Effectiveness of Information Education Communication on Knowledge Regarding Prevention of Obesity Among Students in Selected High School at Kanyakumari”.

OBJECTIVES

- To assess the pretest level of knowledge regarding prevention of obesity among students in selected schools at Kanyakumari.

- To evaluate the effectiveness of information education communication on level of knowledge regarding prevention of obesity among students in selected schools at Kanyakumari.
- To find the association between the pretest and post test level of knowledge among students and their selected demographic variables.

HYPOTHESIS

H₁ : There will be a significant difference between pre test and post test level of knowledge regarding prevention of obesity among students in selected schools at Kanyakumari.

H₂ : There will be a significant association between pre test and post test level of knowledge regarding prevention of obesity among students in selected schools at Kanyakumari and their selected demographic variables.

OPERATIONAL DEFINITIONS

Evaluate:

Evaluate refers to judge the knowledge level of the students before and after Information Education Communication regarding prevention of obesity using structured knowledge questionnaire.

Effectiveness:

Effectiveness refers to the enhancement of knowledge after administration of Information Education and Communication using structured knowledge questionnaire regarding prevention of obesity.

Knowledge:

It refers to the response of student's awareness about obesity by structured multiple choice questionnaire.

Information Education and Communication (IEC):

It refers to systematically planned teaching programme designed to provide information regarding prevention of obesity among students.

High School Students:

In this study, it refers to school children of 11-16years and are studying in classes 6th-11th.

Obesity:

It is a condition where storage of excess body fat negatively affects a child's health or well being.

ASSUMPTIONS

- Students may have inadequate knowledge regarding prevention of obesity.
- Students can identify obesity at an earlier stage and it can be prevented and effectively managed.
- Obesity remains unnoticed in students due to lack of specific symptoms.

DELIMITATIONS

- The study is delimited to a period of 6 weeks
- The study is delimited to school students

PROJECTED OUTCOMES

- The findings of this study would reveal existing level of knowledge regarding prevention of obesity among students during pre-test.
- Afterwards investigator will provide information education communication regarding prevention of obesity, which helps to improve the level of knowledge regarding prevention of obesity.

CHAPTER II

REVIEW OF LITERATURE

Review of literature is an important step in the development of any research project. It helps the investigator to analyze what is already known about the topic and do describe methods of inquiry used in earlier work including the success and short comings. This chapter deals with the collected information relevant to the present study through the published and unpublished materials. These publications were the foundation to carry out the research work.

Research literature were reviewed and organized under the following headings.

- Studies related to prevalence of obesity.
- Studies related to knowledge regarding obesity.
- Studies related to effects of obesity among children.
- Studies related to Effectiveness of Information Education Communication (IEC) on level of knowledge.

STUDIES RELATED TO PREVALENCE OF OBESITY

Anna Patsopoulou (2015) conducted a study to assess the prevalence of overweight and obesity in school children and their parents and in identifying associated factors among parents and school children. The sample consisted of 816 school children aged 12-18 years old and their parents in Warrisa high school. PAQ and parents initiated motivational climate questionnaire was used as anthropometric

measurements. The study concluded that the prevalence of overweight and obese mothers were high.

Yan zou, Ronghuazhang (2015) conducted a comparison study on the prevalence of obesity and its associated factors among city, township and rural area adults in china. A stratified clusters sampling technique used and randomly samples were selected as per 1770 city residence 2011 town residence and 1736 rural area residence. Dietary data were collected through interviews and anthropometric measurement was measured BMI ≥ 28.0 kg/m² were designed as obesity. The prevalence of obesity was 10.1%, 7.3%, 6.5%, among city, town, rural area adults respectively. Correlation analysis was positively correlated with BMI ($r= 0.112, 0.084, 0.109, 0.129, 0.077, 0.078, 0.125, p < 0.05$). The prevalence of obesity was higher among city residents than among township and rural area residents.

Mariadel Mar Bibiloni (2013) conducted a descriptive study on the prevalence of overweight and obesity in adolescents (10-19 years) of both sexes. Literature review have been taken and at the end of this overweight and obesity, prevalence is high, obesity is higher among boys although it is not clear. Despite there is no consequences about criteria to be used to classify adolescent as over weighed or obese the study contribute to guide through health planning to develop proper tools for adolescent obesity management.

STUDIES RELATED TO KNOWLEDGE REGARDING PREVENTION OF OBESITY

Narayana Swamy (2015) conducted a study to assess the knowledge regarding prevention of obesity among high school students of Giddarth School, Koothanoor. 60 samples taken. The samples were selected by using convenient sampling technique. The data were collected from the samples by using structured teaching questionnaire method and rating scale method. The study findings revealed that the prevalence majority of the respondents (66.7%) are having normal body mass index followed by 18.3% are below normal 11.7% are overweight and 3.3% of respondents are obese. 81.7% are not having previous information on obesity and remaining 18.3% of respondents are having previous information about problems of obesity and how to be prevented.

Lobstein (2013) conducted a study to assess the effectiveness of structured teaching program on knowledge and attitude regarding prevention of obesity and correlate the knowledge and attitude regarding prevention of obesity among adolescents in a selected pre university college. A pre experimental one group pre-test post -test design was adopted convenience sampling technique used for selecting the adolescents. A structured knowledge questionnaire and a five-point Likert scale is used to assess. The data obtained were analysed based on the objectives and hypothesis using descriptive and inferential statistics. The result showed that the mean post-test knowledge and attitude score of adolescents on prevention of obesity was higher than the mean pre-test knowledge and attitude score, no co-relation between knowledge and attitude. The study concludes that the teaching program improved the knowledge level and attitude of adolescents regarding prevention of obesity.

Prasant K. Uma ran (2013) conducted a descriptive study on knowledge regarding prevention and attitude regarding prevention of obesity among adolescents. This study correlate the knowledge and attitude regarding prevention of obesity among adolescents in a selected pre university college. A pre experimental one group pre-test post-test design was adopted convenience sampling technique used for selecting the adolescents. A structured knowledge questionnaire on prevention of obesity and a five-point likert scale to assess the attitude regarding prevention of obesity were developed as the tools for data collection. The present study concludes that the teaching programme improved the knowledge and attitude of adolescents regarding prevention of obesity.

Vinod wasnik (2012) conducted a descriptive cross sectional study from June (2012) to September (2012) among children residing in two social welfare hostels for scheduled caste girls. A total of 420 girls children formed the study subjects. Height-weight, BMI was recorded of total 420 girls and that 37.4% (157) were in the age group 13 years. Followed by 26.9% were in age group 14 years, 18.6% were in age group 12 years, 9.8% were in age group 15 years and very few that is 5% and 2.4% in the age group 11 and 10. The present study concludes that the teaching programme improved knowledge and attitude among children.

Marina ANjelekela, omarychillo (2010) conducted a cross sectional study among primary school children aged 6-17 years from nine primary schools in Dares salaam primary schools where randomly selected and included in the study while insuring equal representation of both public and private primary schools. Study questionnaires with both closed and open ended questions, data were gathered through

a structured interview using questionnaire. Prevalence of obesity was defined using BMI percentiles for age and sex. Children with BMI \geq 95th percentile for age and sex were considered obese and those with BMI between 85th and 95th percentile for age and sex. This study concluded that only one third were aware of the ways to prevent childhood obesity.

Natha. A (2008) conducted a study in Nellore city from 542 adolescent girls socio demographic profile, mobility pattern. A total of 50 respondents consisting of school going children of the adolescence age (13-18) years represented the sample size of the study. About 2 percent of school age students had efficient knowledge regarding prevention of obesity. 88 percent of school age student had inadequate knowledge regarding prevention of obesity.

Montana (2005) data from the youth risk behaviour study shows 9% of high school students are overweight and 13% are at risk for becoming overweight. American Indian children in Montana are particularly at risk for obesity with prevalence more than twice as high as the general population.

The 2004 national health and nutrition examination survey (NHAN) study questionnaires with both closed and open-ended questions were used to gather the required information from the participants data were collected through a structured interview using questionnaire. BMI for 17.1% of children were measured at or above the 95th percentile for age using logistic regression, trends, were adjusted for race, ethnicity and age and showed a significant increase in obesity for children and adolescents. An increase in childhood obesity has been in many countries, with China

showing an increase of 11% of obesity prevalence and Great Britain's prevalence nearly tripling.

Wang et al, (2002) conducted a study on children aged 6-18 years old in four countries, United States, Brazil, china and Russia. The measurement standard used was developed by the international obesity task force (IOTF), which utilized BMI cut off points from data compiled of children from many countries. It also incorporated BMI measures derived from gender specific curves that pass through adult BMI curves at age of 18 years of age. Analysis of the data demonstrated the trend of overweight and obese children is increasing in both industrialized and developing countries. Russia did not show trends towards overweight but have one inversely demonstrated more underweight children.

Freed man (1999) conducted a study examined the relationship between children's BMI measurement and cardiovascular disease (CVD) using seven cross sectional studies spanning more than 20 years data was analyzed from 9000 children, ages 5-17. The study demonstrated that risks linked to CVD increased with weight 95th percentile. When compared to non overweight children, fifty eight percent of overweight children were found to have one cardiovascular risk factor, while over 50% were found to have two risk factors for cardiovascular disease. Study concluded that relationship between children's BMI measurement and cardiovascular disease is non significant.

STUDIES RELATED TO EFFECTS OF OBESITY ON CHILDREN

A study conducted by Freeman (2004) examined the relationship between children BMI measurement and cardiovascular disease (CVD). Using 7 cross sectional studies spanning more than 20 years, data was analysed from 9000 children, age is 5-17. The study demonstrated that risks linked to CVD (Elevated lipids, insulin and BP) increased with weight > 95th percentile. When compared to non overweight children, fifty eight percent of overweight children were found to have one cardiovascular risk factor.

A study conducted by Whilock et (2005) a study on effects on childhood obesity was shown to increase the likelihood that the consequences will be long term. Leading to adult obesity and is associated with diverse and complex co-morbidities.

A study conducted by Junine (2015) examine the association between weight status and men's positive mental health defined as the presence of symptoms of emotional, psychological, social well being and evaluate the moderating effect of marital status. A total of 645 men aged between 19-71 years self reported their height and weight. And answer a questionnaire method is used. A study concluded that over weight was marginally associated with higher emotional well being, obesity was associated with psychological well being.

The study conducted at Delhi among 4399 children (56.7%) boys, 43.3% girls) of 4-77 years of age group, on "Problems encountered due to childhood obesity". Revealed that obesity is associated with several risk factors for heart disease and other chronic diseases.

STUDIES RELATED TO EFFECTIVENESS OF INFORMATION EDUCATION AND COMMUNICATION ON LEVEL OF KNOWLEDGE

Hepsiba Beula Rajam. T (2016) conducted a quantitative study to evaluate effectiveness of Information Education and Communication on knowledge regarding management of dialysis among 60 patients with chronic renal failure at Theni. The study revealed that 25 had inadequate knowledge and 5 had moderately adequate in pre-test. In post-test 28 had adequate knowledge and 2 had moderately adequate knowledge. The study concluded that information education and communication was effective in improving knowledge.

Joslin Jose, (2015), conducted a quantitative study to evaluate the effectiveness of IEC on knowledge regarding assertive behavior for child abuse among 60 children in Thrissur. The study revealed that the pre-test knowledge lower than the post-test knowledge. The study concluded that IEC was effective in improving the knowledge of children regarding assertive behavior for child abuse.

Benila G.T. (2014) conducted a pre experimental study to evaluate the effectiveness of information education and communication on knowledge regarding vasectomy among 60 young adults in Coimbatore. The study revealed that, in pre-test 34 of young adults had inadequate knowledge and 16 had moderately adequate knowledge 10 had adequate knowledge. In post-test 9 had moderately adequate kind 51 had adequate knowledge. In post test score level of knowledge score was 16.4, standard deviation was 2.2, mean difference was 7.7. The obtained 't' value is 18.4. It

was significant that $p < 0.05$ level. The study concluded that IEC was effective in improving knowledge regarding vasectomy.

Jenila, P (2013) conducted a quantitative pre experimental study to evaluate the effectiveness of IEC on awareness regarding child abuse among 60 mothers in Coimbatore. The study revealed that the post-test awareness higher than the pre-test. In post test mean score were 32, standard deviation 2.76. The calculated mean difference was 21.2. The paired 't' value was 37.45, which was statistically significant at $p < 0.01$ level. The study concluded that IEC was effective in improving the mother's awareness regarding child abuse.

CONCEPTUAL FRAMEWORK

WIEDENBACH'S HELPING ART OF CLINICAL NURSING

PRACTICE THEORY (1964)

“Tabot (1995) stated that a conceptual framework is a network of interrelated changes that provide a structure for organizing and describing the phenomenon of interest. Research studies are based on the theoretical or conceptual framework that facilitates visualizing the problem and places the variables in a logical context.

The present study aims at evaluating the effectiveness of Information Education Communication (IEC) on level of knowledge regarding prevention of obesity among student. Conceptual framework for this study was developed based on Ernestine Wiedenbach's helping art of clinical nursing practice theory.

Ernestine Wiedenbach's began her nursing career in 1970. According to her nursing practice is an act in which the nursing action is based on the principles of helping.

General information

Wiedenbach's first published her ideas in 1964 in *clinical nursing and helping art*. She further refined her theory in “Nurses' Wisdom In Nursing Theory”, published in 1970 by the *American journal of nursing*.

Wiedenbach proposed a prescriptive theory for nursing practice, which is described as a conceiving of a desired situation and the ways to attain it. This theory directs action toward an explicit goal.

This theory consists of three factors: central purpose, prescription and realities. A nurse develops a prescription based on a central purpose and implements it according to the realities of the situation.

Central Purpose

Central purpose in the theory refers to what the nurse wants to accomplish. It is the overall goal towards which a nurse strives, it transcends the immediate intent of the assignment or task by specifically directing activities towards students benefits.

In this present study, the central purpose was to improve the level of knowledge regarding prevention of obesity among students in selected high schools which helps to prevent obesity.

Prescription

Prescription refers to the plan of care for a patient. It specifies the nature of the action that will fulfill the nurse's central purpose and the rationale for that action.

In this present study the prescription was, 30 minutes of Information Education Communication (IEC) on knowledge regarding prevention of obesity administered as an intervention to improve the level of knowledge regarding prevention of obesity.

Realities

Realities refer to the physical, psychological, emotional and spiritual factors that come into play in a situation involving nursing actions. The five realities identified by Wiedenbach are agent, recipient, goal, means and framework.

In this present study the five realities were,

- The agent : the nurse or researcher
- The recipient : school students
- The goal : to improve knowledge
- The mean : Information Education Communication (IEC) package on knowledge regarding prevention of obesity
- The framework : Excel central school at Kanniyakumari.

Concepts

According to Wiedenbach, nursing practice consists of identifying a students need for help, ministering the needed help, validating the need for help was met and co-ordination of help.

Identification

It involves viewing the students as an individual with unique experience and understanding the students knowledge. Determining a students need for help based on the existence of previous knowledge and to improve the knowledge level.

In this present study, it involves identification of the need for improvement in level of knowledge regarding prevention of obesity. It was identified through data on demographic variables, structured self administered knowledge questionnaire.

Ministration

It refers to the provision of needed help. It requires an identified need and a student who wants help.

In this present study, the identified need was to promote knowledge regarding prevention of obesity, and 30 minutes of Information Education Communication (IEC) package on knowledge regarding prevention of obesity was applied as an intervention to improve the level of knowledge regarding prevention of obesity.

Validation

Refers to a collection of evidence that shows whether a person need have been met and his / her functional ability has been restored due to direct results of the nurses actions. It is based on person oriented evidence.

In this present study it evaluates the effectiveness of Information Education Communication (IEC) on prevention of obesity with the help of structured self administered knowledge questionnaire. A positive outcome represents the satisfaction of the students with increased knowledge by Information Education Communication (IEC) on prevention of obesity and the intervention is reinforced.

The negative outcome represents the dissatisfaction of the students with inadequate knowledge.

Co-ordination

It refers to reporting, consulting and conferring. In this present study it refers to reporting, consulting and conferring with the Administrator of excel central school, students and teachers regarding the need and the effectiveness of Information Education Communication (IEC) regarding prevention of obesity.

According to Wiedenbach's nursing practice consists of identifying a students need for help, ministering the needed help, validating the help which is provided was indeed.

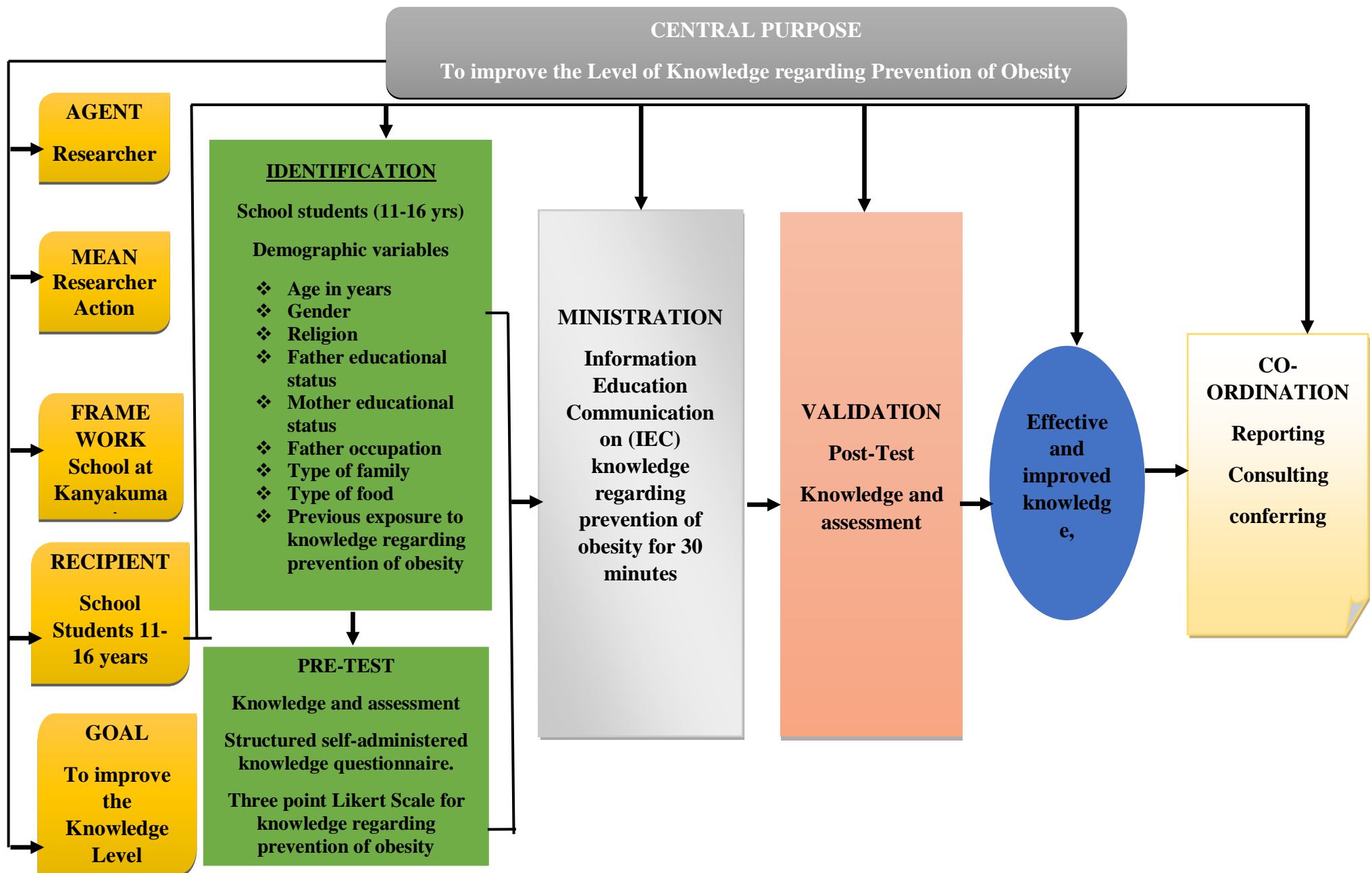


Fig. 1 : Conceptual Framework based on Widenbeck's Theory (1964)

CHAPTER - III

METHODOLOGY

The research methodology guides the researcher in planning and implementing the study in a way that is most likely to achieve the intended goal.

This chapter deals with the methodological approach adopted for the study. It includes description of research approach, research design, setting of the study, population, sample, criteria for sample selection, sampling technique, and development of tool, description of tool, scoring procedure, data collection and plan for data analysis.

Research Approach

Polit and Hungler, (2004) defined the research approach as “A general set of orderly discipline procedure used to acquire information”.

In this present study, a quantitative research approach was used for analyzing the effectiveness of Information Education Communication on level of knowledge regarding prevention of obesity among students.

Research Design

Nancy burns, Susan K Groove (2005), defined research design as a blue print for conducting the study that maximizes control over the factors that could interfere

with the validity of the findings. The research design guides the researcher in planning and implementing the study in a way that is most likely to achieve the intended goal.

A pre-experimental one group pre-test post-test design was adopted for this study.

The diagrammatic representation of research design is given below

Group	Day 1	Day 8
Experimental	O1 X	O2

$O2-O1$ = effectiveness of IEC

Key :

O1 = Pre-test assessment of level of knowledge regarding prevention of obesity.

X = Intervention Information Education and Communication regarding prevention of obesity.

O2 = Post-test assessment of level of knowledge regarding prevention of obesity.

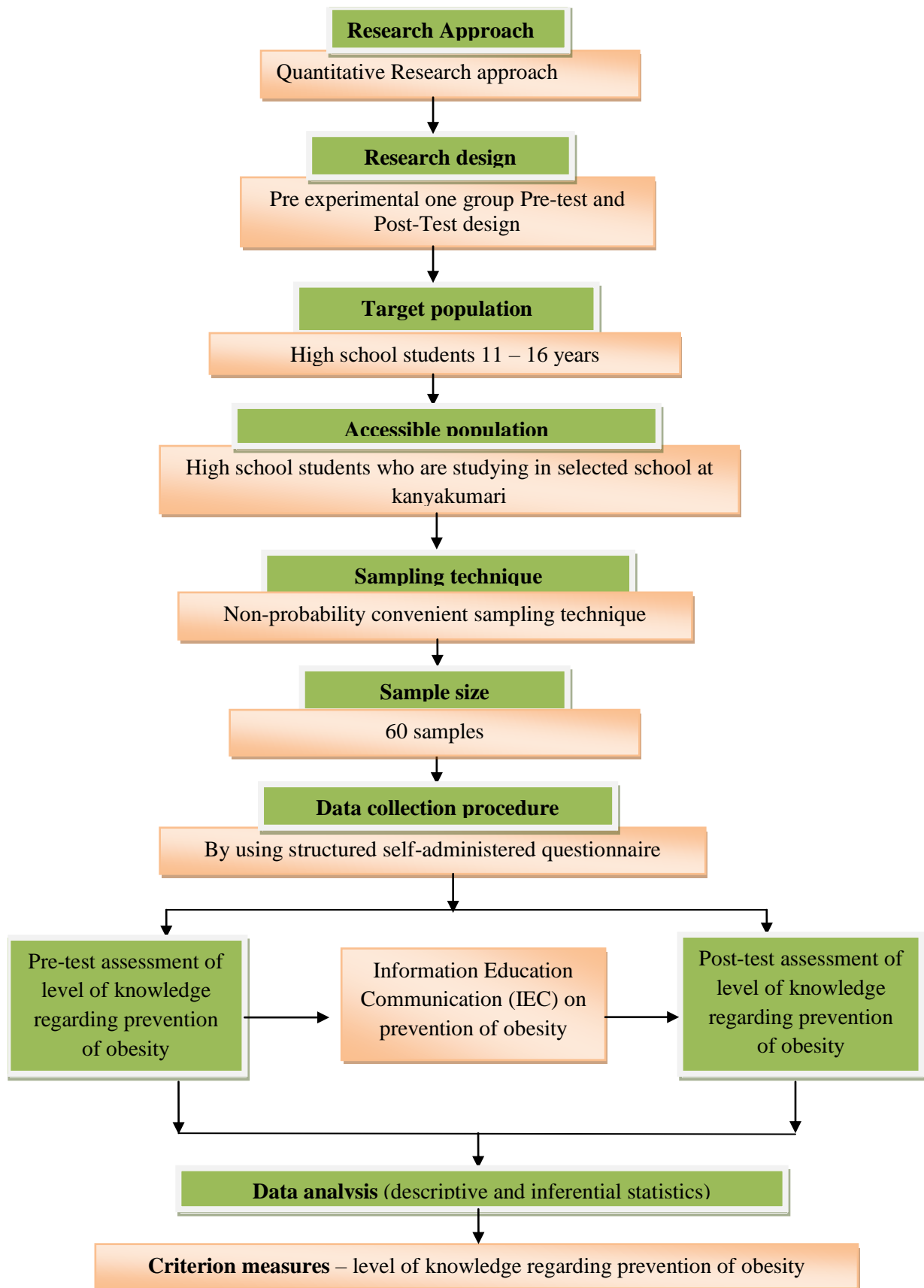


Figure 2 : The Schematic Representation Of Research Methodology

Variables

Dependent variable	:	Level of knowledge regarding prevention of obesity.
Independent variable	:	Information Education & Communication(IEC) regarding prevention of obesity.
Extraneous variables	:	Age, Sex, Religion, Fathers Education, Mothers Education, Fathers Occupation, Leisure Time Activity, Family food habits, Type of family, Previous exposure to knowledge regarding prevention of obesity.

Setting of the Study

The study was conducted in Excel school at Kanyakumari. In this total students was 1890 and there were 350 students in 6th- 11th classes. The setting was chosen on the basis of feasibility in terms of availability of adequate samples and co-operation extended by the school authorities.

Population

According to Polit and Hungler (2005), “A population is the entire aggregation of cases in which a researcher is interested”.

Target population selected for this study was all the students between the age group of 11-16 years. Accessible population selected for this study includes 6th-11thclass students in excel school at Kanyakumari.

Sample

Polit and Hungler, (2005) stated that sample consists of a subset of population selected to participate in a research study. A total number of 60 students between the age group of 11-16 years were selected based on inclusion and exclusion criteria for the study and survey was done for 1 day to identify the number of students in excel school Kanyakumari.

Criteria for Sample Selection

Inclusion Criteria:

1. Students with in the age group of 11-16 years.
2. Students who are willing to participate in this study.
3. Students who will be available at the time of data collection.

Exclusion Criteria:

1. Students who are deaf and dumb.
2. Students who are suffering from any illness or absent.
3. Students who are aging below 10 years.

Sampling Technique

Polit and Hungler, (1991) stated that, “sampling refers to the process of selecting a portion of the population to represent the entire population”.

The samples were selected for this study by adopting non-probability convenient sampling techniques which means, selection of the most readily available persons as Participants in a study.

Development of the Tool

Treece and Treece (1960) emphasized that the instrument selected in research should be as far as possible be the vehicle that would best obtain data for drawing conclusion.

The investigator developed the tool after an extensive review of literature and experts opinion. The structured self-administered knowledge questionnaire was developed to assess the level of knowledge regarding prevention of obesity among students in high school.

Description of the Tool

The Structured self-administered questionnaire was used to evaluate the effectiveness of Information Education Communication on level of knowledge regarding prevention of obesity among students in high school. It consists of two parts.

SECTION A: A tool to assess the demographic data of high school students such as age, sex, religion, fathers education, mothers education, fathers occupation, leisure time activity, type of family, type of food, previous awareness regarding obesity.

SECTION B: The investigator developed 25 structured self administered knowledge questionnaires regarding knowledge in prevention of obesity.

Scoring Procedure

In structured self administered knowledge questionnaire the pattern of question is multiple choices. The questionnaire consists of 25 items. The maximum possible score is

25, each correct answer carries one score wrong answer carries zero score. The total 25 score were interpreted as follows,

SCORE	LEVEL OF KNOWLEDGE
0-8	Inadequate knowledge
9-17	Moderately adequate knowledge
18-25	Adequate knowledge

Information Education and Communication (IEC) package

Information Education and Communication (IEC) package was developed by investigator after an extensive review of literature and experts opinion. The Information Education and Communication (IEC) package held for 30 minutes duration comprised of overall objectives, content, teacher - learner activities, summary and conclusion. It consists of certain domains which include meaning of obesity, prevalence, causes, risk factors, signs and symptoms, diagnostic methods, management (home care), prevention and effects of obesity. The method of teaching adopted was lecture cum discussion in English Medium, Liquid Crystal Display (LCD) projector was planned to use as Audio Visual Aid.

Validity

Polit and beck (2004) states that “content validity is a judgment regarding the instrument represents to be assessed”. Judgment is based on prior research in the field and on the opinion of the experts.

All suggestions were considered and appropriate changes were made and the corrected tool was found to be valid.

The content validity of the instrument was obtained by five nursing experts and two medical experts. Nursing experts were from department of child health nursing in various institutions and medical experts were from department of pediatrics. Based on their suggestion, reframing of the tool was done.

Reliability

According to De Vos (1998) reliability refers to accuracy and consistency of a measuring instrument. An instrument can be considered reliable if it yields similar results on separate occasions.

The reliability co-efficient was calculated by test re-test method and co efficient correlation score was 0.9 and found highly reliable.

Pilot Study

Polit and Beck (2004) states that, a pilot study is a smaller version of proposed study conducted to refine the methodology.

The investigator conducted pilot study among ten school students in excel school at Kanyakumari. Study period was 2 weeks. After obtaining the written consent, the pre-test level of knowledge regarding prevention of obesity among the participants was assessed by administering structured self administered questionnaire followed by that Information Education Communication (IEC) was given regarding prevention of obesity for 30 minutes on day 1. In 7 days interval again the same questionnaire was administered to assess the post-test level of knowledge on 8th day.

Data Collection Procedure

A formal prior permission to conduct the study was obtained from the chair person of excel school at Kanyakumari. The samples were informed by the investigator about the nature and purpose of the study. The written consent and pre-test level of knowledge regarding prevention of obesity was assessed from students by administering structured self administered questionnaire for 20 minutes on day 1 by going class visit followed by Information Education Communication (IEC) package on prevention of obesity was given for 30 minutes through LCD. Students were gathered in 7 days interval the post-test level of knowledge was assessed by administering same questionnaire on 8th day of each group.

Plan for Data Analysis

The demographic variables were analyzed by using descriptive measures (frequency and percentage). The effectiveness of Information Education Communication on level of knowledge regarding prevention of obesity among school students in selected high schools was analyzed by using paired 't' test. The association between level of knowledge and the selected demographic variables were assessed by Chi-square test.

Protection of Human Rights

The proposed study was conducted after the approval of dissertation committee of the college of nursing. Prior permission obtained from the authority of excel school. Written consent of each subject was obtained before starting the data collection and assurance was given to them that the anonymity and confidentiality of each individual was maintained throughout the study.

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretations of the collected data from the students in a selected school. The purpose of analysis was to reduce the data to an intelligible and interpretable form, so that the relation of the research problem can be studied and tested.

Polit and Peck (2004) have denoted data analysis as the systematic organization, synthesis of research data and the testing of research hypothesis by using those data.

The collected data regarding effectiveness of Information Education Communication (IEC) on knowledge regarding obesity among students in selected high school were organized, analyzed and interpreted as follows:

- Section I : Data on Demographic Variables of students
- Section II : Data on Level of Knowledge regarding prevention of obesity among students in selected high school.
- Section III : Data on effectiveness of Information Education Communication on level of knowledge among students in selected high school.
- Section IV : Data on Association between the Post-test Level of Knowledge regarding obesity among students with their Selected Demographic Variables.

**SECTION I : DATA ON DEMOGRAPHIC VARIABLES OF
STUDENTS ON SELECTED HIGH SCHOOL.**

Table: 1

Frequency and Percentage Distribution of students on selected high school with their
selected demographic variables

N= 60

Sl. No	Demographic Variables	Frequency (f)	Percentage (%)
1.	Age in years		
	a) 11-12 years	30	50%
	b) 13-14 years	20	33.3%
	c) 15-16 years	10	16.7%
2.	Gender		
	a) Male	40	66.7%
	b) Female	20	33.3%
3.	Religion		
	a) Hindu	30	50%
	b) Muslim	5	8.3%
	c) Christian	25	41.7%
	d) Others	0	0%
4.	Fathers educational status	0	0%
	a) Primary education	10	16.7%
	b) Secondary education	20	33.3%
	c) Higher secondary education	30	50%
	d) Graduate/equivalent	0	0%
	e) No formal education	3	5%

5.	Mothers educational status	13	21.7%
	a) Primary education		
	b) Secondary education	30	50%
	c) Higher secondary education	14	23.3%
	d) Graduate/equivalent	0	0%
	e) No formal education	9	15%
6.	Fathers occupation		
	a) Government employee	40	66.7%
	b) Private employee	11	18.3%
	c) Self employee	0	0%
	d) Un employee		
7.	How do you spend your leisure time	35	58.3%
	a) Indoor games	15	25%
	b) Watching TV	3	5%
	c) Outdoor games	7	11.7%
	d) Exercise		
8.	Type of family		
	a) Nuclear family		
	b) Joint family		
	c) Extended family	33	55%
9.	Type of food	20	33.3%
	a) Vegetarian	7	11.7%
	b) Non- vegetarian		
		6	10%
		54	90%

10.	Previous exposure to knowledge prevention of obesity		
	a) Yes	8	13.3%
	b) No	52	86.7%

The table 1 shows that the distribution of demographic variables of students.

- It shows that out of 60 subjects 30 majority (50%) were belonging to the age group between 11-12 years, 20 (33.3%) were belonging to the age group between 13-14 years and 10 (16.7%) belonging to the age group 15-16 years.
- Regarding sex, majority 40 (66.7%) were males and 20 (33.3%) were females.
- Regarding religion, majority of them 30 (50%) were Hindus, 5 (8.3%) were Muslims, 25 (41.7%) were Christians and none of them belong to other religion.
- Regarding father's educational status 10 (16.7%) belong to secondary education and 20 (33.3%) belongs to higher secondary education and 30 (50%) belongs to graduate / equivalent.
- Regarding mothers educational status, 3 (5%) belongs to primary education and 13(21.7%) belongs to secondary education and 30 (50%) belongs to higher secondary education and 14 (33.3%) belongs to graduate / equivalent.
- Regarding father's occupation, 9 (15%) were government employees and majority 40 (66.7%) were private employees and 11 (18.3%) were self employed.

- Regarding spending leisure time, 35 (58.3%) were spending in indoor games, 15 (25%) were spending by watching TV, 3 (5%) were spending in outdoor games and 7 (11.7%) spending by exercise.
- Based on type of family, majority 33 (55%) were nuclear family and 20 (33.3%) were joint family and 7 (11.7%) were belonging to extended family.
- Regarding type of food, majority 54 (90%) were non-vegetarian and 6((10%) of them were vegetarian.
- In relation to previous exposure to awareness regarding prevention of obesity 8 (13.3%) were exposed and majority 52 (86.7%) were not having exposure to awareness.

SECTION II : DATA ON LEVEL OF KNOWLEDGE
REGARDING PREVENTION OF OBESITY
AMONG STUDENTS IN SELECTED HIGH
SCHOOL.

Table 2

Frequency and Percentage Distribution of Pre and Post-test level of knowledge
regarding prevention of obesity among students in selected high schools.

N=60

S. No.	Level of Knowledge	Pre-test		Post-test	
		f	%	f	%
1.	Inadequate knowledge	45	75%	0	0
2.	Moderately adequate knowledge	10	16.7%	11	18.3%
3.	Adequate knowledge	5	8.3%	49	81.7%

Table 2.1 shows that, In pre-test among 60 samples majority 45 (75%) of them had inadequate knowledge and 10 (16.7%) had moderately adequate knowledge and 5 (8.3%) of the students had adequate knowledge regarding prevention of obesity. In post-test 11 (18.3%) of them had moderately adequate knowledge and majority 49 (81.7%) had adequate knowledge.

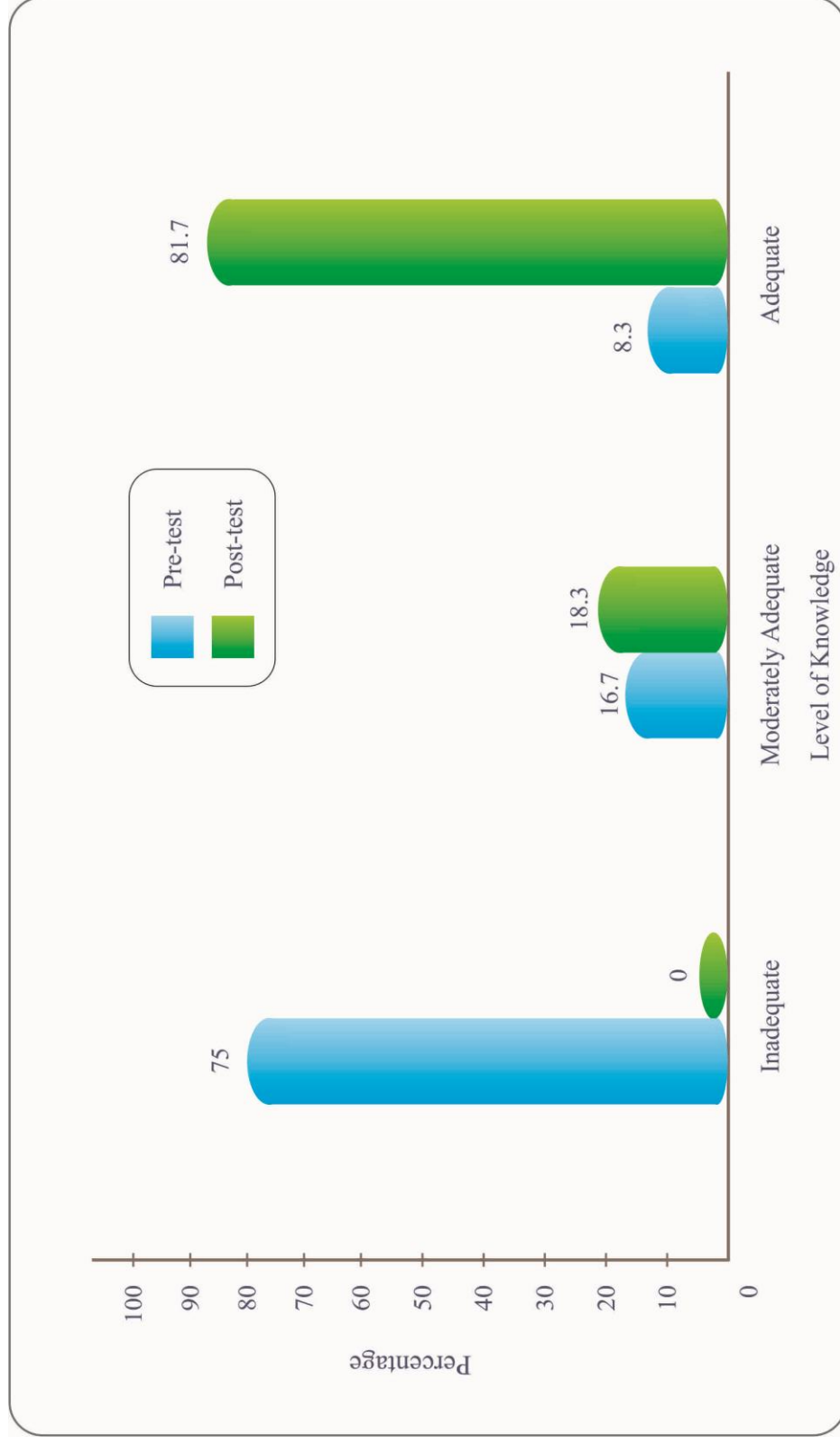


Fig 3 : Frequency and Percentage Distribution of

Pre-Test and Post-Test Level of knowledge regarding Prevention of Obesity among Students in selected High School

SECTION III : DATA ON EFFECTIVENESS OF INFORMATION
EDUCATION COMMUNICATION ON LEVEL OF
KNOWLEDGE REGARDING PREVENTION OF
OBESITY AMONG STUDENTS.

Table 3

Mean, standard Deviation, Mean Difference and 't' value of Pre-test and Post-test
level of knowledge score regarding obesity among students in selected high school.

N=60

Group	Level of knowledge	Mean	SD	MD	't' Value
Experimental group	Pre-test	7.4	4.97	12	18.9*
	Post-test	19.4	2.88		

*-Significant at $p < 0.05$ level

Table 3.1 shows that, the mean pre-test level of knowledge score was 7.4, standard deviation was 4.97 and the mean post-test level of knowledge score was 19.4, standard deviation was 2.8. The mean difference was 12. The obtained 't' "t" value is 18.9. It was significant at $p < 0.05$ level. Hence, the stated hypothesis (H₁) is accepted.

It is concluded that Information Education Communication (IEC) on prevention of obesity is effective in improving level of knowledge among students in high school.

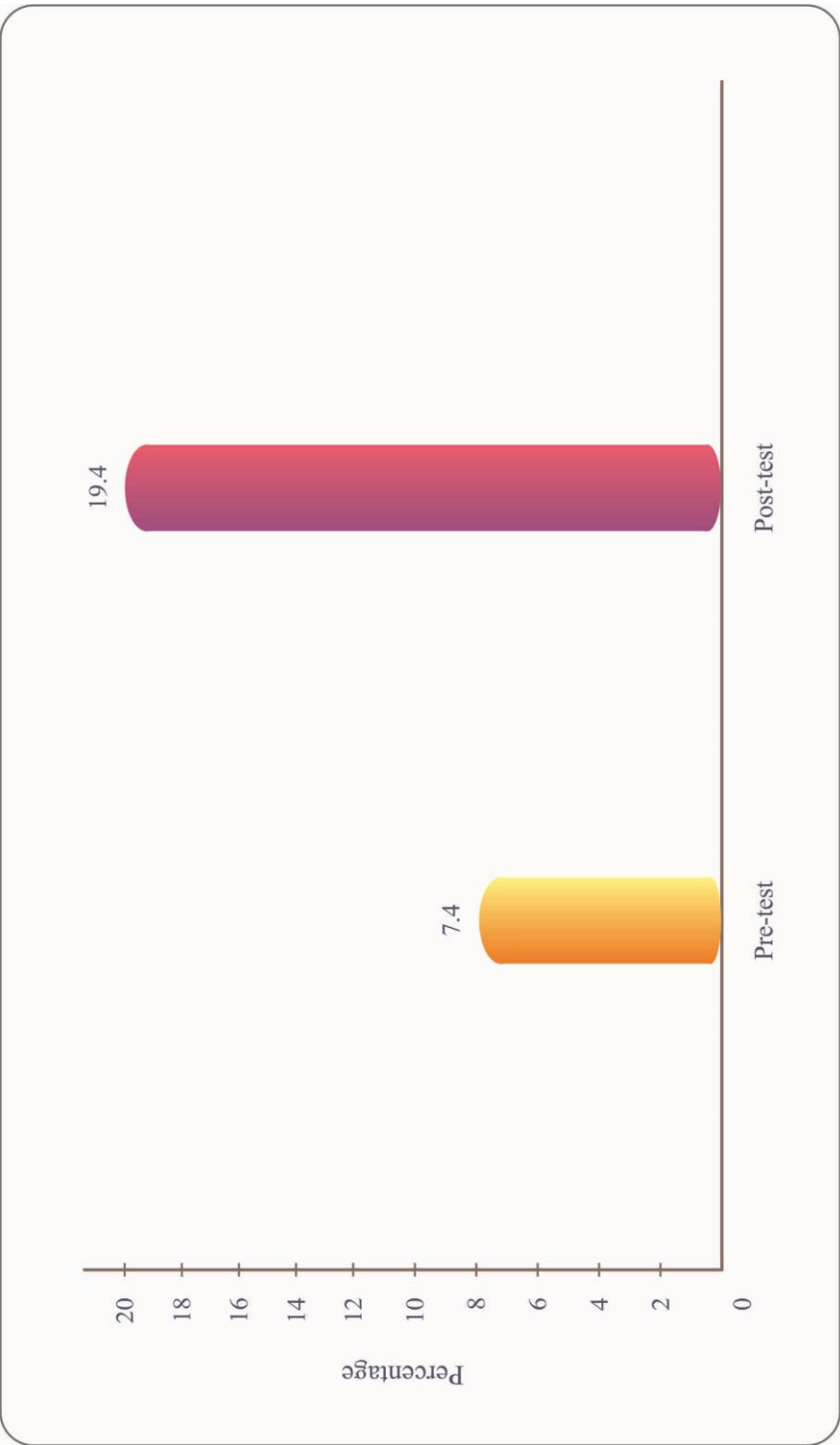


Fig 4 : Mean, standard Deviation, Mean Difference and “t” value of Pre-test and Post-test level of knowledge score regarding obesity among students in selected high schools.

SECTION IV : DATA ON ASSOCIATION BETWEEN THE
LEVEL OF KNOWLEDGE REGARDING
PREVENTION OF OBESITY
AMONG STUDENTS IN SELECTED HIGH
SCHOOL.

Table 4

Frequency, percentage and chi square distribution of Post-level of knowledge
regarding prevention of obesity among students in selected demographic variables.

N=60

Sl. No.	Demographic Variables	Level of knowledge				χ^2 Value
		Moderately Adequate		Adequate		
		f	%	f	%	
1.	Age in years					3 ^{NS}
	a) 11-12 years	3	5%	27	45%	
	b) 13-14 years	5	8.3%	15	25%	
	c) 15-16 years	3	5%	7	11.7%	
2.	Gender					7 ^S
	a) Male	8	13.3%	32	53.3	
	b) Female	3	5%	17	28.3	
3.	Religion					2.32 ^{NS}
	a) Hindu	2	3.3%	28	46.7%	
	b) Muslim	1	1.7%	4	6.7%	
	c) Christian	8	13.3%	17	28.3%	
	d) Others	0	0	0	0	

4.	Fathers educational status					
	a) Primary education	0	0	0	0	10.43 ^S
	b) Secondary education	2	3.3%	8	13.3%	
5.	c) Higher secondary education	6	10%	14	23.3%	
	d) Graduate/equivalent	3	5%	27	45%	
	e) No formal education	0	0	0	0	
6.	Mothers educational status					
	a) Primary education	1	1.7%	2	3.3%	11.4 ^S
	b) Secondary education	2	3.3%	11	18.3%	
	c) Higher secondary education	7	11.7%	23	38.3%	
	d) Graduate/equivalent	1	1.7%	13	21.6%	
	e) No formal education	0	0	0	0	
7.	Fathers occupation					
	a) Government employee	4	6.7%	5	8.3%	3.1 ^S
	b) Private employee	5	8.3%	35	58.3%	
	c) Self employee	2	3.3%	9	15%	
	d) Un employee	0	0	0	0	
	How do you spend your leisure time					
8.	a) Indoor games	2	3.3%	33	55%	7.3N ^S
	b) Watching TV	5	8.3%	10	16.7%	
	c) Outdoor games	1	1.7%	2	3.3%	
	d) Exercise	3	5 %	4	6.7%	

9.	Type of family					
	a) Nuclear family	3	5%	30	50%	2.4 ^{NS}
	b) Joint family	7	11.7%	13	21.7%	
	c) Extended family	1	1.7%	6	10%	
10.	Type of food					
	a) Vegetarian	2	3.3%	4	6.7%	1.02 ^{NS}
	b) Non- vegetarian	9	15%	45	75%	
11.	Previous exposure to knowledge prevention of obesity					
	a) Yes	0	0	8	13.3	1.79 ^{NS}
	b) No	11	18.3%	41	68.3%	

S-Significant; NS- Non Significant

Table 4 indicate that, among age of 11-12 years, 3 (5%) had moderately adequate knowledge, 27 (45%) had adequate knowledge. Among the category of 13-14 years 5 (8.3%) had moderately adequate knowledge and 15 (25%) had adequate knowledge. In the category of 15-16 years 3 (5%) had moderately adequate knowledge and 7 (11.7%) had adequate knowledge.

The obtained chi-square value of 3 and it was not significant at $p < 0.05$ level and thus stated research hypothesis is not accepted.

With regard to gender among males 8 (13.3%) had moderately adequate knowledge and 32 (53.3%) had adequate knowledge. Among females 3 (5%) had

moderately adequate knowledge and 17 (28.3%) had adequate knowledge. The obtained chi square value 7 was significant at $p < 0.05$ level and thus the stated research hypothesis is not accepted.

With regard to religion, in the category of Hindu 2 (3.3%) had moderately adequate knowledge and majority 28 (46.7%) had adequate knowledge. In the category of Muslim 1(1.7%) had moderately adequate knowledge, 4(6.7%) had adequate knowledge. In the category of Christians 8 (13.3%) had moderately adequate knowledge. 17 (28.3%) had adequate knowledge. The obtained chi square value 2.32 was found to be not significant at $p < 0.05$ level.

With regard to fathers educational status. In the category of secondary education 2 (3.3%) had moderately adequate knowledge, and 8 (13.3%) had adequate knowledge. In the category of higher secondary education 6 (10%) had moderately adequate knowledge, and 14 (23.3%) had adequate knowledge. In the category of graduate equivalent 3 (5%) had moderately adequate knowledge, and 27(45%) had adequate knowledge regarding prevention of obesity. The obtained chi square value is 10.43 was found to be significant at $p < 0.05$ level.

With regard to mothers educational status. In the category of primary education 1(1.7%) had moderately adequate knowledge, and 2(3.3%) had adequate knowledge. In the category of secondary education 2 (3.3%) had moderately adequate knowledge, and 11 (18.3%) had adequate knowledge. In the category of higher secondary education 7 (1.7%) had moderately adequate knowledge, and 23 (38.3%) had adequate knowledge. In the category of graduate/ equivalent 1 (1.7%)

had moderately adequate knowledge, and 13 (21.6%) had adequate knowledge regarding prevention of obesity. The obtained chi square value is 11.4 was found to be significant at $p < 0.05$ level.

With regard to fathers occupation among students, in the category of government employee 4 (6.7%) had moderately adequate knowledge and 5 (8.3%) had adequate knowledge. In the category of private employee 5 (8.3%) had moderately adequate knowledge and 35 (58.3%) had adequate knowledge. In the category of self employed 2 (3.3%) had moderately adequate knowledge and 9 (15%) had adequate knowledge regarding prevention of obesity. The obtained chi square value 3.1 was found to be not significant at $p < 0.05$ level.

With regard to leisure time activity in the category of indoor games 2(3.3%) had moderately adequate knowledge, and 33(55%) had adequate knowledge. In the category of watching tv 5(8.3%) had moderately adequate knowledge and 10 (16.7%) had adequate knowledge .In the category of outdoor games 1(1.7%) had moderately adequate knowledge and 2(3.3%) had adequate knowledge. In the category of exercise 3 (5%) had moderately adequate knowledge and 4 (6.7%) had adequate knowledge regarding prevention of obesity. The obtained chi square value 7.3 was found to be not significant at $p < 0.05$ level.

With regard to type of family in the category of nuclear family 3 (5%) had moderately adequate knowledge and majority 30 (50%) had adequate knowledge. In the category of joint family 7 (11.7%) had moderately adequate knowledge and 13 (21.7%) had adequate knowledge. In the category of extended family 1(1.7%)

had moderately adequate knowledge and 6 (10%) had adequate knowledge regarding prevention of obesity. The obtained chi square value 2.4 was found to be not significant at $p < 0.05$ level.

With regard to type of food vegetarian 2 (3.3%) had moderately adequate knowledge and 4 (6.7%) had adequate knowledge. Non Vegetarian 9 (15%) had moderately adequate knowledge 45 (75%) had adequate knowledge. The obtained chi square value 1.02.

With regard to previous exposure to awareness regarding prevention of obesity, in the category of yes 8 (13.3%) had adequate knowledge. In the category of no 11 (18.3%) had moderately adequate knowledge and majority 41 (68.3%) had adequate knowledge. The obtained chi square value 1.79 was found to be not significant at $p < 0.05$ level.

CHAPTER V

DISCUSSION

The basic aim of the current study is to evaluate the effectiveness of Information Education Communication (IEC) on knowledge regarding prevention of obesity among students in selected high school. The present study was conducted by using pre-experimental one group pre-test and post-test design. Excel school in Thiruvattar at Kanyakumari was selected for conducting the study, and the sample size was 60.

The structured self administered knowledge questionnaire was administered to assess the level of knowledge regarding prevention of obesity among students in selected high school.

The responses of students were analyzed through descriptive statistics (mean, frequency, percentage, standard deviation) and inferential statistics t-test, chi square test). Based on the objective of the study the results were discussed,

The first objective of the study was to assess the level of knowledge regarding prevention of obesity among students in selected high school.

Among the 60 middle aged adults 45 (75%) had inadequate knowledge and 10 (17%) had moderately adequate knowledge and 5 (8%) had adequate knowledge

regarding memory loss in the pre-test. Among 60 students majority 49 (81.7%) had adequate knowledge and 11 (18.3%) had moderately adequate knowledge and none of them had inadequate knowledge regarding prevention of obesity among students in selected high school during post-test.

The results are similar to the findings of study done by Prashanth K. and Uma Rani, (2013) who conducted an experimental study to assess the effectiveness of structured teaching programme on knowledge and attitude regarding prevention of obesity and Correlate the knowledge and attitude regarding prevention of obesity among adolescents in a selected pre-university college among adolescent girls of 50 samples in New Delhi, which revealed. The 't' value computed between pre-test and post-test knowledge scores is statistically significant at 0.05 level of significance. The calculated 't' value ($t=10.57$) is greater than the table Value ($t=2.0096$). This indicates that the teaching program on prevention of obesity was effective in improving the knowledge of adolescents.

The second objective of the study was to evaluate the effectiveness of IEC on knowledge regarding prevention of obesity among students in selected high school.

The mean pre-test knowledge score 7.4 with standard deviation 4.97 was less than the mean post-test knowledge score 19.4 with standard deviation 2.88. The calculated mean difference was 12 and the obtained t value 18.9 was highly significant at $p<0.05$ level. Hence the stated hypothesis H1 is accepted.

This finding revealed that there is a significant difference between the pre-test and post-test mean score of knowledge regarding prevention of obesity among students in selected high school. So it was concluded that the Information Education Communication (IEC) was effective in improving level of knowledge regarding prevention of obesity among students in selected high school.

The results are similar to findings of study done by Manjusha Samudre, Kulkarni (2010) who conducted a pre-experimental study to assess the effectiveness of Information Education Communication package on existing knowledge regarding prevention of obesity among 45-65 years general population of 160 samples in miraj, kupwad corporation, which revealed that.. The pre-test mean knowledge score was 14.2 and standard deviation was 4.5, in post-test the mean knowledge score was 19.7 and standard deviation was 3.1, the obtained 't' value is 7.22 the pre-test mean attitude score was 13.5 and standard deviation was 3.8, in post-test the mean knowledge score was 19.3 and standard deviation was 2.8, the obtained t-value is 6.97, which is significant at $p < 0.001$ level.

The third objective of the study was to determine the association between the level of knowledge regarding prevention of obesity among students in selected high school with their selected demographic variables.

The study findings revealed that in post-test the obtained chi square value for selected demographic variables (age, gender, religion, fathers educational status, mothers educational status, fathers occupation, leisure time activity, type of family, type of food, previous exposure to awareness regarding obesity) among these

fathers educational status, mothers educational status ,and gender , has an significant association between the level of knowledge regarding obesity among students in selected high school with their selected demographic variables. Hence the stated hypothesis H_3 is rejected.

A study was carried out at the University School to assess the Obesity risk factors in children. A logistic regression model was developed to examine the relationships between obesity and possible risk factors. Obesity was strongly associated with parental obesity. Furthermore, energy intake, having regular physical activity, presence of obesity in the mother, the father, and the mother's family and having a mother working out of home were also significantly associated with obesity.

CHAPTER VI

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter deals with summary, conclusion, limitations and recommendations of the study. Further it includes implications for nursing practice, nursing education, nursing administration and recommendations for further nursing research.

Summary

The present study was to evaluate the effectiveness of Information Education Communication (IEC) on knowledge regarding prevention of obesity among students in selected high school at Kanyakumari.

The objectives of the study were

- To assess the level of knowledge regarding prevention of obesity among students in selected high school.
- To evaluate the effectiveness of Information Education Communication (IEC) on knowledge regarding prevention of obesity among students in selected high school.
- To determine the association between the level of knowledge regarding prevention of obesity among students in selected high school with their selected demographic variables.

A pre-experimental one group pre-test and post-test design was chosen for this study. 60 samples were selected for this study by using non-probability convenient sampling technique. Sample selection was based on inclusion and exclusion criteria.

A structured interview questionnaire was used for the study. It consists of three parts,

PART I : It consisted of demographic variables of students such as age in years, gender, religion, fathers educational status, mothers educational status, fathers occupation, type of family , leisure time activity, type of food intake, previous exposure to awareness regarding prevention of obesity, if yes specify the source of information.

PART II : Structured self-administered knowledge questionnaire to assess the level of knowledge regarding prevention of obesity among students in selected high school. It consists of 25 multiple choice questions.

The content validity was done with 7 experts; five nursing experts specialized in child health nursing and two paediatricians. Reliability of the tool was calculated by using test retest method

The duration of data collection period was 6 weeks. Samples were selected based on inclusion and exclusion criteria. The study samples were clearly explained about the study and obtained written consent from them. The pre-test level of knowledge were assessed by using structured self administered questionnaire

followed by Information Education Communication (IEC) on knowledge regarding prevention of obesity for 30 minutes duration.

After 7 days interval on 8th day the post-test level of knowledge were assessed by using the same questionnaire.

The collected data were analyzed by using both descriptive statistics (mean, standard deviation) and inferential statistics ('t' test, chi square) and the results were interpreted.

Major findings of the Study

The major study findings include:

- Among 60 subjects, the majority of them 30 (50%) were between 11-12 and 20 (33.3) 13-14 years of age, 40 (67.7%) were males, 30 (50%) were Hindus, 30 (50%) of fathers were graduate, 30 (50%) of mothers had higher secondary education, 40 (66.7) were private employees
- 35 (58.3%) were playing indoor games, 33 (55%) were in nuclear family, 54 (90%) were taking non-veg, 52 (86.7%) of them didn't have previous exposure to awareness regarding obesity.
- In pre-test majority of the students had 45 (75%) Inadequate knowledge
- In post-test majority of the students had 49 (81.7%) adequate knowledge.
- In relation to effectiveness of IEC package on knowledge regarding prevention of obesity the pre-test knowledge mean score was 7.4, standard deviation was 4.97 and post-test mean score was 19.4 and standard deviation 2.88 which was increased after administration of IEC. The

calculated mean difference was 12 and the obtained t-value 18.9 was significant at $p < 0.05$ level. The result shows that the IEC was effective in improving knowledge.

- With regards to association between the level of knowledge regarding prevention of obesity among students with their selected demographic variables, there was no association between the level of knowledge regarding prevention of obesity with their selected demographic variables such as father's education, mother's education and gender.

CONCLUSION

The main conclusion drawn from this present study was Information Education Communication (IEC) on prevention of obesity was effective in improving knowledge that denoted by significant difference between pre-test and post-test level of knowledge score. Samples became aware about prevention of obesity and found themselves comfortable and also expressed satisfaction, and also the investigator understood the needs and purpose of Information Education Communication (IEC) regarding prevention of obesity and developed adequate knowledge regarding approaches and methods in doing research. The findings of the study encourage the nurses to adopt this Information Education Communication (IEC) as a part of their awareness nursing education programme in primary care setting.

Implications of the Study

According to Tolsma (1995) the section of the research report that focuses on nursing implication usually includes specific suggestions for nursing practice, nursing education, nursing administration and nursing research.

NURSING PRACTICE

The findings implies the need for a nurse to keep abreast with the knowledge by undergoing continuing education and in-service education and training to upgrade skills and learning and be well versed with newer advancements in diagnosis and use of self- monitoring instruments and management skills. The school nurse can play an important role in educating the general information, importance of diet and prevention of obesity among students in the school settings.

The study finding signifies the importance of formulating and implementing PTP by nursing personnel mainly at the school settings. Since there is a gross inadequacy in knowledge and practices regarding prevention of obesity they are able to make significant contribution to the students in achieving good health.

NURSING EDUCATION

The study had proved that improving knowledge of students regarding prevention of obesity can change their practice. To impart the knowledge to the students the Nursing personnel need to be equipped with adequate knowledge regarding prevention of obesity. Nursing personnel working in various health setting should be given in service education to update the knowledge and abilities in identifying the learning needs of the clients with obesity regarding prevention of obesity and planning for appropriate intervention.

NURSING ADMINISTRATION

The nursing administrator should take an initiative in creating health policy making and developing protocols in providing education to the students during their schooling and involve patients in the promotion of their health. Nurse administrators should review the institutions policies and practices related to diabetic diet of patients. They should develop dietary meal plans and guidelines to be followed for management of obesity. The Nurse administrator should plan for the budget and utilize the resources for training of staff, health education of patients and providing regular education, Training and follow up for students attending schools and colleges.

NURSING RESEARCH

There is a growing need for furnishing nursing research in all areas of healthcare. The Nurse researchers especially beginners need to enhance their quest for knowledge. Several research studies including the current study in the field of child hood obesity serves as knowledge base to the beginner nurse researchers, who can further conduct research studies in the areas of the importance of diet, ideal body weight, dietary allowances and sources, fiber in diet, anti oxidants using control groups. The nurse researchers can discuss with diabetes mellitus patients, Healthcare professionals on future research problems related to diabetes mellitus and dietary management. The nurse researchers may effectively use the results of various studies and recommend on the importance of diet, sources of food and changes in life style for better management of obesity thus to reduce the mortality and morbidity associated to diabetes mellitus . The nurse researchers can conduct studies to assess the effectiveness of self-care manual and health education modules for various age groups of students.

LIMITATIONS

- Information collected from the students was based on the self reported responses only.
- The study was confined to 60 students only.
- The study is limited to assessment of knowledge regarding obesity among students of 11-16 years only.

RECOMMENDATIONS

- In the light of the above findings and personal experience of the investigator the following recommendations are offered.
- The study can be replicated on a larger sample; thereby findings can be generalized for a larger population.
- A Self instructional module can be prepared to enhance the knowledge of students regarding prevention of obesity.
- Regular educational programme scan be conducted for students on importance of diet; monitoring body mass index and management of prevention of obesity thereby ensuring an active live for type 2 diabetes mellitus.
- A comparative study can be done between effectiveness of self instructional module versus planned teaching programme.
- The study can be done in the community area.
- A similar study can be conducted to compare the knowledge level of students between urban and rural communities.

REFERENCES

BOOK REFERENCES

- Swaminathan,M.(2005) Principles Nutrition, Dietics.Second edition, Bapco Publishing, Bangalore.
- Bellize,M.C(2001) .Standard definition for childhood overweight and obesity.Br med.
- Wongs (2001) wongs essentials of pediatric nursing(2nd edition) missorimos by publications.
- Steinberger J Morgan A,HongCP,Jacobs DR Jr.Sinaiko AR(2001) Adiposity in childhood predicts obesity and insulin resistance in young adulthood. JPediatr.
- Parthasarathy.A (2009)IAP text book of pediatrics (4th edition)newdelhi publications.
- Pouliot MC, Despre's JP, Nadeau A (1992) .Visceral obesity in men.Associations with glucose tolerance, plasma insulinandlipoproteinlevelDiabetes.
- Hakim AS.(2002) Medical complications of obesity, SB Gupta (ed),Medicine Update Associations of Physicians of India, Mumbai, 480-528) Colditz GA, Willett WC, Stampfer MJ et al. Weight as a risk factor for clinical diabetes inwomen. Am J Epidemiol 1990; 132:
- Klesges RC, Coates TJ, Brown G.(1986) Parental influences on childrens' eating behavior and relative weight. J ApplBehav Ana371-378.
- Parul Datta., "Text Book of Paeditric Nursing"., Second Edition., J.P. Brothers Medical Publication., New Delhi., Pg. 259,480.
- Sister Nancy., "Principles and Practice of Nursing"., 4th Edition., 2nd Volume., N.R. Brothers Publication., Indore., Pg. No. 170-180.

JOURNAL REFERENCES

- Jones AP, Remington T, Williamson PR, Ashby D, Smyth RL(2005): High prevalence but low impact of data extraction and reporting errors were found in Cochrane systematic reviews. *Journal of Clinical Epidemiology*, 58(7):741-742.
- *Journal of school Health*(2004) „School based intervention for obesity.
- BabitaRexlin (2015) prevalence of obesity among school children in Madurai IJCRR section health care sci-journal impact factor 4.016
- Janaspilkova (2016) teenage overweight and obesity: A pilot study of obesogenic and obesoprotective environments in the Czech Republic, the *journal of institute geonics ASCR*.
- MahshidDehghan (2008) childhood obesity prevalence and prevention: *nutritional journal* 4:24
- J.J Reilly (2006) obesity in childhood and adolescence: evidence based clinical and public health perspectives, *post graduate medical journal* 429-437.
- Marina A Njeleka (2015) knowledge and attitude towards obesity among primary school children in Dar es Salaam, Tanzania, *Nigerian medical journal* 56 (2):103-108.
- C-E Flodmark (2006) interventions to prevent obesity in children and adolescent: a systematic literature review *International Journal of obesity* 30, (579-589).
- RoyaKelishadi (2004) controlling childhood obesity, a systematic review on strategies and challenges: *Nutritional journal* 4:24.
- Nafisa.M (2006) 21st century review: childhood obesity in north America : *International Journal of obesity*

- Manjushasamudre (2016) knowledge on prevention of obesity among the students from selected high schools, *International Journal of Obesity* (200-208).

NET REFERENCES

- American Academy of Pediatrics Policy Statement (2007) Prevention of Pediatric Overweight and Obesity, *Pediatrics Vol. 12, No 2*, viewed online 2/21/2008 at <http://aappolicy.aappublications.org/cgi/content/full/pediatrics;112/2/424>
- Americas children viewed online 2-21-07@ www.childstats.gov/americaschildren
- American Heart Association; Cardiovascular Disease Statistics Viewed online August 28, 2007 at <http://www.americanheart.org/presenter.jhtml>
- Anderson, P. M., & Butcher, K. M. (2006) Childhood obesity, trends and potential causes
- *The Future of Children*:16 (1). Viewed online @ www.futureofchildren.org
- Annie E. Casey Foundation Kids Count Special Report (2004) City and Rural, Kids Count Data Book. Anne E. Casey Foundation viewed at www.aecf.org/knowledgecenter/publications
- Barlow, S. F., Bobra, S. R., Elliott, M. B., Brownson, R. C. & Haire-Joshu, D. (2007) Recognition of childhood overweight during health supervision visits: Does BMI help pediatricians. *Obesity 15*:225-232. Retrieved 8/7/07 from <http://www.obesityresearch.org/cgi/content/abstract/15/1/225>

- Berry, D. (2004). An emerging model of behavior change in women maintaining weight loss, *Nursing Science Quarterly*. 17:3, 242-252. Retrieved October 1, 2006 from: <http://www.lib.montan.edu/epubs/indexes/health.html>
- Bragg, S., &Leight, E,. (2003) The application of vulnerable populations conceptual model to rural health. *Public Health Nursing*, 20(6), 440-449. Retrieved October 1, 2006 from: <http://www.lif.montana.edu/epubs/indexes/health.html>
- Centers for Disease Control and Prevention National Center for Health Statistics (2005)
- National survey of children's health *The Health and Well-being Of Children: APortrait of States and the Nation 2005* Viewed online 11/20007 At www.cdc.gov/nchs/about/major/slait/nchs.htm

APPENDIX A

LETTER SEEKING AND GRANTING PERMISSION TO CONDUCT THE STUDY
AT EXCEL SCHOOL, KANYAKUMARI.

ANNAI MEENAKSHI COLLEGE OF NURSING

Affiliated with the Tamil Nadu Dr. M.G.R. Medical University, Chennai.
Approved by the Indian Nursing Council, New Delhi &
Tamil Nadu Nurses and Midwives Council, Chennai.

Madukkarai Market Road,
P.B. No. 4431
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Cell : 94421 75641, 98435 24219

Phone : 0422 - 6562705, 2675641, 2672705
Fax : 0422 - 2676016
Email : ceandct@gmail.com
Website : www.annaimeenakshi.in

December 5, 2016

Ref. No. To,

Date :

Respected Sir/Madam,

Mrs. Priscilla J., is a student of II year M.Sc., (Nursing) in Annai Meenakshi College of Nursing, Coimbatore. She is conducting a research titled as **A Study to Evaluate The Effectiveness of Information Education and Communication (IEC) on the level of knowledge regarding prevention of Obesity among students in selected High school at Kanyakumari**.

This is for her research work to be submitted to the Tamil Nadu Dr. M.G.R. Medical University in partial fulfillment of the University requirement for the award of M.Sc., (Nursing) Degree.

As a part of her study she would like to collect the data from High School students regarding knowledge on prevention of Obesity in your esteemed institution. The student will furnish project personally. The student will follow the norms, ethics and policies practiced in institutional setting will be followed by the students.

Thanking you,

Yours faithfully,



PRINCIPAL
EXCEL GLOBAL SCHOOL
Thiruvattar, Kanyakumari Dist.
Tamil Nadu - 620 177
South India.

Managed by : CHEMISTS EDUCATIONAL & CHARITABLE TRUST
Administrative Office : College Campus, Madukkarai Market Road, Coimbatore - 641 021.

APPENDIX B
REQUISITION FOR CONTENT VALIDITY

ANNAI MEENAKSHI COLLEGE OF NURSING

Affiliated with the Tamil Nadu Dr. M.G.R. Medical University, Chennai.
Approved by the Indian Nursing Council, New Delhi &
Tamil Nadu Nurses and Midwives Council, Chennai.

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Email : ceandct@gmail.com
Website : www.annalmeenakshi.in

Ref. No. Requisition for Content Validity Date :

From

Mrs. Priscilla J.,
II - Year M.Sc.(N)
Annai Meenakshi College of Nursing,
Coimbatore - 21.

Through
The Principal,
Annai Meenakshi College of Nursing,
Coimbatore - 21.

To Mrs. S. N. Agnes Merin M.Sc(N)
Nursing Superintendent
The Salvation Army Catherine Booth Hospital, Nagarcil-1.
Respected Sir/Madam,

Sub: Requisition for expert opinion and suggestion for content
validity of the tool - Reg.

I am a student of M.Sc., Nursing II year in Annai Meenakshi College of Nursing, Coimbatore, affiliated to The Tamil Nadu Dr. M.G.R. Medical University, Chennai. As a partial fulfillment of the M.Sc., Nursing programme, I am conducting a research titled as "A Study to Evaluate the Effectiveness of Information Education and Communication (IEC) on level of knowledge regarding prevention of Obesity among students in selected High school at Kanyakumari". I am hereby enclosing the following:

1. Statement and objectives of the study
2. Hypothesis
3. Methodology
4. Tool
5. Intervention
6. Content Validity certificate.

Herewith I am submitting the developed tool for content validity and for your opinion and possible suggestion. I will be grateful to you and request you to return the same to the undersigned at the earliest possible.

Thanking you,

Place: Coimbatore
Date:

Yours faithfully,

Priscilla

Managed by : CHEMISTS EDUCATIONAL & CHARITABLE TRUST
Administrative Office : College Campus, Madukkarai Market Road, Coimbatore - 641 021.

APPENDIX B

LETTER REQUESTING EXPERTS OPINION FOR CONTENT VALIDITY
OF THE TOOL.

ANNAI MEENAKSHI COLLEGE OF NURSING

Affiliated with the Tamil Nadu Dr. M.G.R. Medical University, Chennai.

Approved by the Indian Nursing Council, New Delhi &

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Ref. No.

Requisition for Content Validity

Date :

From

Mrs. Priscilla J.,
II - Year M.Sc.(N)
Annai Meenakshi College of Nursing,
Coimbatore - 21.

Through
The Principal,
Annai Meenakshi College of Nursing,
Coimbatore - 21.

To
Dr. K.V. RAMCHANDAR, M.B.B.S., M.D. (Paediatrics)
Reg. No : 79747

Respected Sir/Madam,

Sub: Requisition for expert opinion and suggestion for content
validity of the tool - Reg.

I am a student of M.Sc., Nursing II year in Annai Meenakshi College of Nursing, Coimbatore, affiliated to The Tamil Nadu Dr. M.G.R. Medical University, Chennai. As a partial fulfillment of the M.Sc., Nursing programme, I am conducting a research titled as "A Study to Evaluate the Effectiveness of Information Education and Communication (IEC) on level of knowledge regarding prevention of Obesity among students in selected High school at Kanyakumari". I am hereby enclosing the following:

1. Statement and objectives of the study
2. Hypothesis
3. Methodology
4. Tool
5. Intervention
6. Content Validity certificate.

Herewith I am submitting the developed tool for content validity and for your opinion and possible suggestion. I will be grateful to you and request you to return the same to the undersigned at the earliest possible.

Thanking you,

Place: Coimbatore
Date:

Forwarded
T. S. S. S.
5/11/11

Yours faithfully,

Priscilla

Managed by : CHEMISTS EDUCATIONAL & CHARITABLE TRUST
Administrative Office : College Campus, Madukkarai Market Road, Coimbatore - 641 021.

APPENDIX-C
LIST OF EXPETS
CONSULTED FOR CONTENT VALIDITY

DR. RAM CHANDAR, M. B. B. S., M.D. (Paediatrics)
Paediatrician,
Megas Hospital
Swamiyar Madam,
Kanyakumari.

DR. SEEBAN MBBS.,MD.,
Paediatrician,
PPK Hospital,
Marthandam,
Kanyakumari.

PROF. SM. AGNES MERIN M.Sc., (N).,
Nursing Superintendent,
CBH Hospital,
Nagercoil.

Prof. Mrs. SUTHANTHIRAKUMARI M.Sc., (N)
Associate Professor,
Annai Meenakshi College of Nursing,
Coimbatore.

Prof. Mrs. SARANYA M.Sc.,(N)
Associate Professor,
Annai Meenakshi College of Nursing,
Coimbatore.

Prof. Mrs. NITHYA M.Sc., (N),
Associate Professor,
Annai Meenakshi College of Nursing,
Coimbatore.

APPENDIX D

STRUCTURED SELF ADMINISTERED QUESTIONNAIRE

SECTION – A

DEMOGRAPHIC DATA

Respected participants,

Read the following items carefully and complete them by placing tick mark (✓) in the portions provided.

Sample no:

1. Age in years

- | | |
|----------------|-----|
| a. 13-14 years | () |
| b. 14-15 years | () |
| c. 15-16 years | () |

2. Gender

- | | |
|-----------|-----|
| a. Male | () |
| b. Female | () |

3. Religion

- | | |
|--------------|-----|
| a. Hindu | () |
| b. Muslim | () |
| c. Christian | () |
| d. Others | () |

4. Fathers educational status

- | | |
|-------------------------------|-----|
| a. Primary education | () |
| b. Secondary education | () |
| c. Higher secondary education | () |
| d. Graduate / equivalent | () |
| e. No formal education | () |

5. Mothers educational status
- a. Primary education ()
 - b. Secondary education ()
 - c. Higher secondary education ()
 - d. Graduate / equivalent ()
 - e. No formal education ()
6. Fathers Occupation
- a. Government Employee ()
 - b. Private Employee ()
 - c. Self Employed ()
 - d. Un Employed ()
7. Leisure Time Activity
- a. Outdoor Games ()
 - b. Watching TV ()
 - c. Indoor Games ()
 - d. Exercise ()
8. Type of family
- a. Nuclear family ()
 - b. Joint family ()
 - c. Extended family ()
9. Type of Food Intake
- a. Veg ()
 - b. Non Veg ()
10. Previous exposure to knowledge regarding prevention of obesity
- a. Yes ()
 - b. No ()

SECTION – B

STRUCTURED KNOWLEDGE QUESTIONNAIRE TO ASSESS THE LEVEL OF KNOWLEDGE REGARDING PREVENTION OF OBESITY AMONG STUDENTS IN SELECTED HIGH SCHOOL AT KANYAKUMARI

1. The term obesity means _____
 - a. Normal weight ()
 - b. Over weight ()
 - c. Under weight ()
 - d. Below average weight ()
2. In obesity the accumulation of _____ is present
 - a. Fat ()
 - b. Protein ()
 - c. Water ()
 - d. Energy ()
3. Causes of obesity can be _____
 - a. Water ,air ()
 - b. Endogenous ,Exogenous ()
 - c. Environment , food ()
 - d. Food ,cough ()
4. Obesity may be due to _____
 - a. Birth defects ()
 - b. Hormonal imbalances ()
 - c. Healthy diet ()
 - d. Over intake of water ()
5. The common exogenous cause of obesity is _____
 - a. Lack of physical activity ()
 - b. Balanced diet intake ()
 - c. Regular walking ()
 - d. Less intake of cookies ()

6. Low income backgrounds students have_____
- a. Increased healthy life style ()
 - b. Increased risk for obesity ()
 - c. Decreased risk for obesity ()
 - d. Increased risk for oedema ()
7. The contributing factors associated with obesity is_____
- a. Video games ,fat foods ()
 - b. Fresh fruits ,juices ()
 - c. Regular exercises ,walking ()
 - d. Taking plenty of water ()
8. The emotional effect of obesity is_____
- a. Happiness ()
 - b. Self depressed ()
 - c. Irritated ()
 - d. Peaceful ()
9. Obesity influences except _____
- a. Psychological aspects ()
 - b. Physical aspects ()
 - c. Poor hygiene ()
 - d. Poor concentrations ()
10. Obesity leads physical problems like_____
- a. Social disturbances ()
 - b. Psychiatric diseases ()
 - c. Memory loss ()
 - d. High blood pressure ()
11. The method used to detect obesity is_____
- a. Basal metabolic index ()
 - b. Basic mass index ()
 - c. Body mass index ()
 - d. Body mass influence ()

12. Normal weight of high school students _____
- a. 18.5-19.0 ()
 - b. 18.5-24.9 ()
 - c. 21.0-30.0 ()
 - d. 20.0-21.0 ()
13. Proper calorie intake for weight loss means _____
- a. Stopping all calorie intake at once ()
 - b. Balancing calorie intake daily ()
 - c. Avoiding only fat calorie diet ()
 - d. Avoiding only protein diet ()
14. The food which effectively helps in reducing obesity except _____
- a. salads ()
 - b. tomatoes ()
 - c. cabbages ()
 - d. potatoes ()
15. Obesity can be _____
- a. Untreatable ()
 - b. Preventable ()
 - c. Unpreventable ()
 - d. Treatable ()
16. The best way to increase weight loss _____
- a. Adapt family meals ()
 - b. Adapt junk foods ()
 - c. Adapt outside meals ()
 - d. Adapt oily foods ()
17. Some junk foods _____
- a. Soft drinks ,French fries ()
 - b. Boiled potatoes ,milk ()
 - c. Grapes ,pomegranates ()

18. Sunlight gives_____
- a. Vitamin A ()
 - b. Vitamin D ()
 - c. Vitamin C ()
 - d. Vitamin E ()
19. Consuming salads like cabbages helps_____
- a. To reduce weight ()
 - b. Treating cancer ()
 - c. Doing heavy works ()
 - d. Controlling diabetes ()
20. Preventive measure of obesity
- a. Healthy nutrition and weight management ()
 - b. Unhealthy nutrition and weight management ()
 - c. Vigorous exercise and fatty foods ()
21. Drink plenty of water to_____
- a. Fight with obesity ()
 - b. Increase obesity ()
 - c. Decrease obesity ()
 - d. Maintain obesity ()
22. Select healthy snacks_____
- a. Almonds ,pumpkin seeds ()
 - b. Cashew nuts ,pastas ()
 - c. Pizzas, burger ()
 - d. Hotdogs, fried chips ()
23. Spreading 5-6 meals a day _____
- a. Induce over eating ()
 - b. Prevents over eating ()
 - c. Induce less energy ()
 - d. Gives more energy ()

24. Oats and apple mix _____

- a. Helps in increasing weight ()
- b. Helps in consuming fat ()
- c. Helps in consuming pattern ()
- d. Helps in reducing weight

25. Foods helps in reducing obesity except

- a. Green tea, oats ()
- b. Almonds, pistas ()
- c. cabbages, tomatoes ()
- d. Ice creams ,hot dogs ()

BLUE PRINT OF QUESTIONNAIRE FOR THE ASSESSMENT OF THE
LEVEL OF KNOWLEDGE REGARDING PREVENTION OF OBESITY

SI.NO	CONTENT	NO.OF QUESTIONS	SI.NO.OF QUESTIONS
1.	DEFINITION	2	1-2
2.	CAUSES	5	3-7
3.	EFFECTS	3	8-10
4.	BMI	2	11-12
5.	MANAGEMENT	6	13-18
6.	PREVENTION	7	19-25

APPENDIX E

SCORING KEY

QUESTION NUMBERS	ANSWERS	SCORE
1	b	1
2	a	1
3	b	1
4	a	1
5	b	1
6	b	1
7	a	1
8	b	1
9	c	1
10	d	1
11	a	1
12	b	1
13	a	1
14	d	1
15	b	1
16	a	1
17	a	1
18	b	1
19	a	1
20	a	1
21	a	1
22	a	1
23	b	1
24	d	1
25	a	1

SCORING :

Section B contains 25 questions. In that each answer carries score like

Correct Answer - 1

Wrong Answer - 0

Total maximum score is about 25 marks and minimum score is 0.

INTERPRETATION OF SCORE :

The total score is interpreted as

S.NO.	LEVEL OF KNOWLEDGE	SCORE
1	Inadequate Knowledge	0-8
2	Moderately Adequate Knowledge	9-17
3	Adequate Knowledge	18-25

APPENDIX F

EVALATION CRITERIA RATING SCALE FOR VALIDATING THE TOOL

Respected Madam/Sir,

Instructions:

Kindly review the items in the tool. If you are agree with the criteria, please place a tick mark in “RELEVANT” column otherwise place the tick mark in “NEEDS MODIFICATION” column or “NOT RELEVANT” and give your comments in the remarks column.

SECTION A: DEMOGRAPHIC VARIABLES

SL. NO	ITEM	RELEVANT	NEEDS MODIFICATION	NOT RELEVANT	REMARKS
1.	Age in years				
2.	Gender				
3.	Religion				
4.	Fathers educational status				
5.	Mothers educational status				
6.	Fathers occupation				
7.	Leisure Time Activity				
8.	Type of family				
9.	Type of Food Intake				
10.	Previous knowledge				

Suggestions if any.....

SECTION B:

STRUCTURED KNOWLEDGE QUESTIONNAIRE

SI NO	RELEVANT	NEEDS MODIFICATION	NOT RELEVANT	REMARKS
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				

20				
21				
22				
23				
24				
25				

Suggestions if any.....

APPENDIX G

INFORMATION EDUCATION COMMUNICATION ON KNOWLEDGE REGARDING PREVENTION OF OBESITY AMONG STUDENTS IN SELECTED HIGH SCHOOL AT KANYAKUMARI

**INFORMATION EDUCATION COMMUNICATION ON KNOWLEDGE REGARDING PREVENTION OF
OBESITY AMONG STUDENTS IN SELECTED HIGH SCHOOL AT KANYAKUMARI**

Name of the student	: Mrs.Priscilla.J
Group	: High school students
Place of instruction	: Excel school at Kanyakumari
Topic	: prevention of obesity among students in selected high school kanyakumari
Medium	: English
Duration	: 30 minutes
Method of teaching	: Lecture Cum Discussion
Teaching aids	: LCD

CENTRAL OBJECTIVE:

The Students will acquire adequate knowledge regarding prevention of obesity and develop desirable, skills in applying this knowledge into their daily living practices.

SPECIFIC OBJECTIVES:

The Students will be able to,



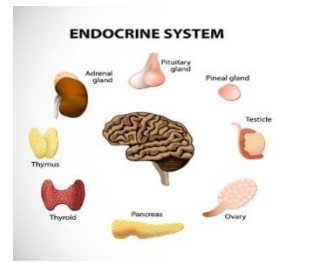
- define obesity
- list down the causes of obesity
- enumerate the effects on health
- describe the classification of obesity
- explain the BMI calculations
- narrate the management of obesity
- recognize the preventive measures of obesity


SELF INTRODUCTION:




GOOD MORNING! I am Mrs.Priscilla doing second year M.sc., nursing in Annai Meenakshi College of Nursing, Coimbatore. I am doing a research on “A Study to Assess the Effectiveness of Information Education Communication on the level of Knowledge Regarding Prevention of obesity among students in selected high schools at Kanyakumari”. Now i am going to give health talk on obesity and its causes, treatment, preventive measures etc. I request your co-operation and active participation to complete this health education.




INTRODUCTION TO THE TOPIC:



Life style related diseases are having few common risk factors which can be prevented if early measures are adopted by the individuals .obesity is the most common nutritional disorder in the western countries and among the higher income groups in developing countries. Obesity now considered as a killer life style disease is an important cause of preventable death world wide .Adolescent obesity also known as new world syndrome is a global health challenge of the 21st century, with morbidity obesity affecting 5% of the country's population.

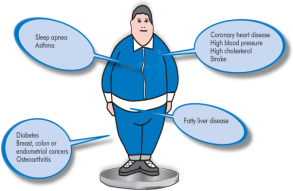

SL. NO	TIME	SPECIFIC OBJECTIVES	CONTENT	TEACHING ACTIVITY	LEARNING ACTIVITY	A.V AIDS	EVALUATION
1	2 min	The students will be able to know the definition of obesity.	<p>DEFINITION: Obesity is the excessive accumulation of fat in the subcutaneous tissues and other body parts.</p> <p>OTHER NAMES OF OBESITY : Over weight</p>	Teaching	Learning		
2	5 min	The students will be able to describe the causes of obesity.	<p>CAUSES OF OBESITY: Obesity</p> <pre> graph TD A[Obesity] --> B[Endogenous obesity] A --> C[Exogenous obesity] </pre> <p>[A] ENDOGENOUS OBESITY- causes related to our own body</p> <p>GENETIC CAUSE: Genetic cause that may include, a child born into a family of overweight people. Family having high caloric diet habit also parents being a role model for excessive eating.</p>	Teaching	Learning	 	

		<p><i>ENDOCRINAL CAUSE:</i> So many hormonal deficiencies occur and lead to hypothyroidism, Cushing syndrome, hormonal deficiencies, polycystic ovaries, pseudohypoparathyroidism, and these imbalances lead to obesity.</p> <p><i>HYPOTHALAMIC OBESITY:</i> Postencephalitic obesity, postmenopausal obesity.</p> <p><i>INADEQUATE SLEEPING PATTERN;</i></p> <p>[B] EXOGENOUS OBESITY: Causes related to external.</p> <p>Constitutional, excessive dietary consumption or over eating due to psychogenic factors, poor energy expenditure, fat cell hyperplasia, etc..</p> <p><i>DIETARY PATTERNS;</i></p> <p>Unhealthy lunch habits</p> <ul style="list-style-type: none"> High calories food intakes Fast food intakes Cookies Baked foods Soda 	Teaching	Learning		
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		<p>Candies chips Vending machine snacks</p> <p><i>LACK OF PHYSICAL ACTIVITY/EXERCISE :</i></p> <p>Sedentary ie, computers, televisions and video games conspire to keep kids inside and burn very few calories. Concern about safety of outside play. .Reliance on cars instead of walking. Lack of physical activity related to limited resources, unsafe environments, inconvenient play and exercise facilities increases the incidence of obesity.</p> <p><i>SOCIO-ECONOMIC STATUS:</i></p> <p>Children from low income back grounds are at increased risk for obesity since they may lack time to prepare health foods. Poor economic condition to join in gyms. Lack of time to encourage physical activities.</p>	Teaching	Learning	  
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		<p>PSYCHOLOGICAL FACTORS:</p> <p>Some children's may turn to food as a coping mechanism for dealing with problems or negative emotions like stress, anxiety or boredom. Children struggling to cope with a divorce or death in the family may eat more as a result.</p> <p>SOME MORE CAUSES OF OBESITY:</p> <p><i>Obesity caused by fast life style:</i></p> <p>In our fast and hurried life style we do not have time to sleep well, no time to eat well or work out. All work and no play is making our bodies lazy and weak. No calories burn as there is no active work done by our bodies leads to obese.</p> <p><i>Obesity caused by fast food:</i></p> <p>We tend to rely heavily on fast food items like hotdogs, pizzas, and burgers. There is no doubt its tasty but it is nothing but empty calories. They completely lack any essential nutrients and vitamins that our body requires.</p>	Teaching	Learning	  
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		<p><i>Lack of exercise leads to overweight and obesity:</i></p> <p>Exercise plays a very vital role in maintenance of body physique. Hence lack of exercise, keeps all these fat cells building their homes in our body as long as we continue.</p> <p><i>Weight gain by high calorie consumption:</i></p> <p>When energy intake is higher than energy loss, fat cells accumulation in our body tissues this resulting in obesity.</p> <p><i>Laziness- The mother of obesity:</i></p> <p>Lowering of body activity levels for daily energy expenditure and increase calorie intake definitely leads to obesity.</p> <p><i>Obesity due to Hormones:</i></p> <p>Hormonal changes during teenage, pregnancy and menopause tend to gain weight.</p> <p><i>Obesity due to Genes or Heredity:</i></p> <p>Obesity flows through genes from generations to generations in a few</p>	Teaching	Learning	 	
			Teaching	Learning		




3.	2mnts	The student will be able to explain the effects on health	<p>cases of dietary patterns and excessive food energy intake leads to obesity.</p> <p>EFFECTS ON HEALTH: Obesity cause ill effects on both physically and psychological health.</p> <p>PHYSICAL EFFECTS: Physically obesity causes so many illness like accumulation of fat under the skin and leads to physical problems like diabetes mellitus, high blood pressure, heart diseases, sleep problems and some sort of cancers. If sugar lever increases and leads to diabetes, stress level, salt intake through junk foods etc leads to high blood pressure in adolescents and also heart diseases. The accumulation of cholesterol or fats undigested stores in the blood arteries and veins leads to heart diseases. Sleep inadequate sleep duration leads to stress and restlessness can be a cause of obesity.</p> <p>PSYCHOLOGICAL EFFECTS Obese children develop low self esteem and emotional problems leading to isolation, excessive appetite and more</p>	Teaching	Learning		Teaching	Learning	
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4.	1mnts	Students will be able to speak out the clinical manifestations.	<p>food intake causing further obesity.</p> <p>CLINICAL MANIFESTATIONS: There is a fat deposition all over the body. Excessive fat deposition over the neck gives double look chin. Fat deposition found in gluteal region, thighs, abdomen and around breast. External genitalia, hands and feet appears small, knocked knee, slipped femoral epiphysis present. Emotional disturbances also present.</p>				
5.	2mnts	Students will be able to calculate BMI.	<p>DIAGNOSIS: The method use to identity obesity is BMI. Body Mass Index is acceptable for determining obesity for children of two years of age and older. It is determined by the ratio of weight to height. The normal ranges for BMI in children vary with age and sex.</p> <p>BMI- Body Mass Index is a number calculated by dividing a person's weight in kilograms by his or her height in meter squared.</p> <p>If a BMI is above 85th percentage its called over weight and if it is above or equal to 95th percentage its called obesity.</p> <p>age in years x 7 -5</p>	Teaching	Learning		



6.	5mnts	<p>Students will be able to realize the dangerous effects of obesity.</p>	<p>Body weight= _____ 2 Height = age in years x 6 + 77</p> <p>Weight BMI = _____ (height m²)</p> <p>Normal weight = 18.5 – 24.9 Over weight = 25 – 29.9 Class I Obesity = 30 – 34.9 Class II Obesity = 35 – 39.9 Class III Obesity = >40</p> <p>OTHER EFFECTS OF OBESITY:</p> <p>Obesity endangers an individual body in many ways. Because of its association with several diseases, obesity decreases life expectancy.</p> <p><i>Obesity result in humiliation and discomfort-</i> Distorted shape or abnormal shape leads in humiliation and discomfort</p> <p><i>Joint pain due to obesity-</i> Many obese people complain of joint pains. In many people joint pain many develop arthritis</p>	Teaching	Learning	<table><tr><th colspan="2">BMI classification</th></tr><tr><td>Underweight</td><td>< 18.5</td></tr><tr><td>Normal range</td><td>18.5 - 24.9</td></tr><tr><td>Overweight</td><td>≥ 25.0</td></tr><tr><td>Preobese</td><td>25.0 - 29.9</td></tr><tr><td>Obese</td><td>≥ 30.0</td></tr><tr><td>Obese class I</td><td>30.0 - 34.9</td></tr><tr><td>Obese class II</td><td>35.0 - 39.9</td></tr><tr><td>Obese class III</td><td>≥ 40.0</td></tr></table>  	BMI classification		Underweight	< 18.5	Normal range	18.5 - 24.9	Overweight	≥ 25.0	Preobese	25.0 - 29.9	Obese	≥ 30.0	Obese class I	30.0 - 34.9	Obese class II	35.0 - 39.9	Obese class III	≥ 40.0
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Obese class II	35.0 - 39.9																							
Obese class III	≥ 40.0																							



			<p>(osteoarthritis) because obese people have overburdened their knees and joints with their excess body weight.</p> <p><i>Obese individuals suffer from various life threatening health problems-</i></p> <p>Obesity increases levels of lipids or fats and cholesterol in the blood leading to narrowing of blood vessels due to deposition of fats in coronary arteries. This in turn causes the blood pressure level and increases the risk of heart attacks and strokes.</p> <p><i>Diabetes is also a side effect of obesity-</i></p> <p>Obesity increases the risk of diabetes. It increases insulin resistance leading to glucose intolerance weight reduction helps many diabetic patients in controlling diabetes.</p> <p><i>Obese individuals have high risk of cancer-</i></p> <p>Obese individuals have a risk of developing cancers such as cancer of gall bladder, endometrial ovary, breasts and cervix in women and cancer of the colon and prostate in</p>	Teaching	Learning	 	
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			<p>Challenge yourself by setting short term and long-term goals and celebrate every success. Do not rust to lose 10kg at once. Stick to 1 or 1.5kgs a week.</p> <p><i>Change your eating habits to beat obesity</i></p> <p>Drink lots of water throughout the day. Increase fruits intake such as papaya pineapple and apples as they contain many beneficial vitamins and avoid fruits like banana that provides fats to your body.</p> <p><i>Food to avoid to lose weight</i></p> <p>Eat salads, vegetables and fruits that have natural benefits to body, eg; wheat barley, maize and seghum can be included in your diet in heavy quantities. Consuming salads that contain many tomatoes and mint leaves, especially cabbage and be included. It is very important to avoid foods that are rich in carbohydrates such as rice and potatoes as well as avoiding sweets and candies, chocolates, refined flour.</p> <p><i>Change exercise routines to lose extra</i></p>				
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			<p><i>weight</i></p> <p>Increase your exercise routines after sometime change timings and routines for a particular exercise so that body does not get used to it. Select varied exercise that you enjoy and those that fit your personality and your work schedule.</p> <p><i>Drink water to fight with obesity</i></p> <p>It is very necessary to keep your body hydrated by nourishing it with water from time to time. Loads of water intake helps to pass out all unwanted harmful materials outside the body through sweat etc.</p> <p><i>Oats help to lose weight</i></p> <p>Oats for breakfast with 2tsb sugar, add some apples to enhance taste.</p> <p><i>Avoid sugar if you want to lose that extra fat</i></p> <p>Avoid sugar intake but do not stop its intake completely. Sugar is also a need of our body, so try to take asper need and avoid extra consumption</p> <p><i>Avoid tea and coffee to get rid of obesity</i></p> <p>Avoid taking tea and coffee more</p>			  	
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			<p>than twice a day. Try to avoid sugar in it</p> <p><i>Do not over eat</i> Instead of three big meals, take small 5-6 meals a day. Do not over eat spread food throughout the day to meet energy needs. Make breakfast the larger and dinner the smallest. Never skip meals.</p> <p><i>Do not eat outside your home</i> Select simply prepared items while eating outside. Avoid fried food, select fruits as desserts rather than ice-creams, puddings etc.,</p> <p><i>Walking is necessary for obese</i> Walk at least once a day. Start with fewer miles and gradually increase your miles. Go for power walk. Rotate your arms out to side and rotate them in circular motion, this will help you to reduce arms weight.</p> <p><i>TV and eating is a bad combination</i> Avoid eating while watching TV. This leads to overeating your will not realise how much you ate.</p>			   	
--	--	--	---	--	--	--	--

			<p><i>Meditation for weight loss</i> Meditate daily stops stressing as it cause fats build premises near your stomach, thighs and hips.</p> <p><i>Sunlight for winning over obesity</i> Sit in sunlight for at least 30 minutes, gain vitamin D also reduce weight</p> <p><i>Eating a rainbow of fruits and vegetables</i> Pay attention to add five to seven servings daily ranging from leafy greens to straw berries to tomatoes to sweet potatoes to promote health.</p> <p><i>Sleep</i> Healthy sleep patterns are necessary for good cognitive performance, which means a least seven hours of sleep each night is essential for good health.</p> <p>PREVENTION OF OBESITY: Schools play a large role in preventing obesity by providing a safe and supporting environment with policies and practices that support healthy</p>			 	
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8.	5mnts	<p>Students will be able to rule out the preventive measures of obesity.</p>	<p>behaviours. At home, parents can help prevent their children from becoming overweight by changing the way the family eats and exercise together. The best way is the parent's participation with children.</p> <ul style="list-style-type: none"> Promote intake of healthy foods Promote physical activities Preconception and pregnancy care Early childhood diet and physical activity Health nutrition Weight management Add plenty of fruits and vegetables Limit eating out <p><i>Healthy snacks:</i></p> <p>Provide seeds like pumpkin and squash almonds, pistachios etc. They breakdown slowly and avoid your hunger and low your sugar level and bathe the cells with healthy fats.</p> <p><i>Fruits and vegetables:</i></p> <p>Add seven in number fruits and well as vegetables and be healthy.</p> <p><i>White carbohydrates:</i></p> <p>Eliminate bleached and artificially fortified bread. Avoid pastas and</p>			 	
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			<p>switch to whole wheat and add olive oils.</p> <p><i>Organic locally- green vegetables:</i> Grow your own garden with fresh vegetables or buy locally grown vegetables and eat.</p> <p><i>Less is best:</i> Serve less food by using smaller plates. Moderate amount of animal protein like your thumb protein larger not than a playing card.</p> <p><i>Make healthier choices:</i> Eat healthier choice by selecting grass fed beef, free range pastured portray, fish from unpolluted water.</p> <p><i>Sugar:</i> Reduce sugar intake instead of fruit juices, take a cup of water.</p> <p><i>Family time:</i> A study by Harvard researches Trageries said that of more than 14,000 children ages 9-14 concluded that the benefits of eating together with family appear to include improved diet quality and brings</p>			  	
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			<p>good result in reducing obesity.</p> <p><i>Water:</i> The maximum amount intake of water gives maximum reduction of unwanted water outside the body.</p> <p><i>Walk:</i> Walk 15 minutes a day is a good way to reduce obesity</p>				
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SUMMARY:

Till now we have discussed regarding prevention of obesity. The meaning, definition, prevalence, causes, effects on health, risk factors, signs and symptoms, diagnosis, management, prevention ,natural remedies to prevent.

CONCLUSION:

I hope you all understood. Thank you for your kind co-operation.

REFERENCE:

- Swaminathan,M.(2005) Principles Nutrition, Dietics.Second edition, Bapco Publishing, Bangalore.
- Bellize,M.C(2001) .Standard definition for childhood overweight and obesity.Br med.
- Wongs (2001) wongs essentials of pediatric nursing(2nd edition) missorimos by publications.
- Steinberger J Morgan A,HongCP,Jacobs DR Jr.Sinaiko AR(2001) Adiposity in childhood predicts obesity and insulin resistance in young adulthood. JPediatr.
- Parthasarathy.A (2009)IAP text book of pediatrics (4th edition)newdelhi publications.

NET REFERENCES

- American Academy of Pediatrics Policy Statement (2007) Prevention of Pediatric Overweight and Obesity, *Pediatrics Vol. 12, No 2*, viewed online 2/21/2008 at <http://aappolicy.aappublications.org/cgi/content/full/pediatrics;112/2/424>
- Americas children viewed online 2-21-07@ www.childstats.gov/americaschildren

APPENDIX H

EVALUATION CRITERIA CHECKLIST FOR VALIDATION OF INFORMATION EDUCATION AND COMMUNICATION (IEC) ON THE LEVEL OF KNOWLEDGE REGARDING PREVENTION OF OBESITY

INSTRUCTION:

The expert is requested to go through following evaluation criteria checklist prepared for validating the intervention on INFORMATION EDUCATION AND COMMUNICATION (IEC) ON THE LEVEL OF KNOWLEDGE REGARDING PREVENTION OF OBESITY.

There are three columns given for responses and a column and facilitate your remarks in the remarks column given

INTERPRETATION COLUMNS:

- Meets the criteria - Column I
- Partially meets the criteria - Column II
- Does not meet the criteria - Column III

SL.NO	CRITERIA	I	II	III	REMARKS
1.	CONTENT				
1.1	SELECTION OF CONTENT				
1.2	Content reflects the objectives				
1.3	Content has up to date knowledge Content is comprehensive for the knowledge of students in selected high school regarding prevention of obesity.				
1.4	Content provides correct and accurate information				
1.5	Content coverage				

2	ORGANIZATION OF CONTENT				
2.1	Logical sequence				
2.2	Continuity				
2.3	Integration				
3	LANGUAGE				
3.1	Local language is used in simple and in understandable dialogues				
3.2	Technical terms are explained at the level of learner ability				
4	FEASIBILITY/PRACTICABILITY				
4.1	Is the suitable to the students				
4.2	Permit self learning				
4.3	Acceptable to students				
4.4	Interesting and useful to the students				
4.5	Suitable for setting				

If any suggestion.....

APPENDIX I

CERTIFICATE OF TOOL VALIDATION

ANNAI MEENAKSHI COLLEGE OF NURSING

Affiliated with the Tamil Nadu Dr. M.G.R. Medical University, Chennai.
Approved by the Indian Nursing Council, New Delhi &
Tamil Nadu Nurses and Midwives Council, Chennai.

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COIMBATORE - 641 021.

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Email : ceandct@dataone.in
ceandct@gmail.com
Website: www.annaimeenakshi.in

Ref. No.

Date : 01.02.2017.

Certificate of Validation

This is to certify that the tool submitted by Mrs. J.Priscilla. Msc., (N) II -
Year student of Annai Meenakshi College of Nursing, Coimbatore, Tamil Nadu (Affiliated to
The Tamil Nadu Dr. M.G.R. Medical University, Chennai) is validated by undersigned and can
proceed with this tool and conduct the dissertation entitled conducting "A study to Evaluate
The Effectiveness of Information Education Communication (IEC) on level of
knowledge regarding prevention of obesity among students in selected high school at
Kanyakumari".

Place: Kanyakumari

Date: 01.02.2017.



S.M. AGNES MERIN
NURSING SUPERVISOR
Name and Designation

Managed by : CHEMISTS EDUCATIONAL & CHARITABLE TRUST

Administrative Office : College Campus, Madukkarai Market Road, Coimbatore - 641 021

APPENDIX J

LETTER SEEKING CONSENT OF SUBJECTS FOR PARTICIPATION IN THE STUDY (ENGLISH AND TAMIL).

CONSENT FORM

Dear children's,

GOOD MORNING! I am Mrs. Priscilla. J doing second year M.Sc., nursing in Annai Meenakshi College of Nursing, Coimbatore. I am doing a research on “A Study to Evaluate the Effectiveness of Information Education Communication on the level of Knowledge Regarding Prevention of Obesity among Students in selected high school at Kanyakumari”. I request your co-operation to complete my research. I assure you that you won't get any harm due to my research.

I am Mr/Ms I heard about the effectiveness of Information Education Communication on Knowledge Regarding Prevention of Obesity among Students from Mrs. Priscilla. J. She explained me the benefits of this Information Education Communication. I agree with this health education on Prevention of Obesity and this study project whole heartedly.

Yours faithfully,

Place :

Date :

APPENDIX K

